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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1991

HEARINGS

BEFORE A

SUBCOMMITTEE OF THE

COMMITTEE ON APPROPRIATIONS

UNITED STATES SENATE

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

ON

H.R. 5803/S. 3189

AN ACT MAKING APPROPRIATIONS FOR THE DEPARTMENT OF DEFENSE FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 1991, AND FOR OTHER PURPOSES

PART 4 (Pages 1-274)

LAND WARFARE
SEAPOWER
TACTICAL AIR POWER

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DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1991

TUESDAY, MAY 8, 1990

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:03 a.m., in room SD–192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Bumpers, Harkin, Stevens, McClure, D'Amato, and Specter.

DEPARTMENT OF DEFENSE

TACTICAL AIR POWER

STATEMENT OF VICE ADM. RICHARD M. DUNLEAVY, ASSISTANT CHIEF OF NAVAL OPERATIONS (AIR WARFARE), U.S. NAVY

ACCOMPANIED BY:

- LT. GEN. CHARLES H. PITMAN, USMC, DEPUTY CHIEF OF STAFF FOR AVIATION, U.S. MARINE CORPS
- MAJ. GEN. JOHN E. JAQUISH, USAF, DIRECTOR, TACTICAL PROGRAMS, OFFICE OF THE ASSISTANT SECRETARY OF THE AIR FORCE (ACQUISITION)
- VICE ADM. RICHARD C. GENTZ, COMMANDER, NAVAL AIR SYSTEMS COMMAND

OPENING REMARKS OF SENATOR INOUYE

Senator INOUYE. The subject of our hearing this morning is the tactical aircraft and related equipment requirements of the Navy, Marine Corps, and the Air Force. Tactical air power is one of the largest funding segments of the defense budget. The increasingly sophisticated technology, in addition to the high costs of military fighter aircraft and missiles, requires the investment of billions of dollars annually to develop, procure, modernize, and maintain our tactical air assets.

Our focus on this subject is the force structure goals and acquisition programs requested for fiscal year 1991. The sweeping international changes of the past several months have altered the national security threats to the United States. These changed conditions, coupled with austere funding constraints, require us to insure that we clearly define our tactical air power objectives and priorities and minimize duplication, both within and among the services.

In response, Secretary Cheney has taken the first step in redefining our requirements by conducting a review of major aircraft acquisition programs. As a result of the review, the Pentagon has decided to curtail its plans to buy six major aircraft, reducing the fiscal year 1991 budget request currently before this subcommittee by $2.4 billion.

The Secretary's decision will have an impact on four tactical aircraft programs, which we will discuss today. The Air Force advanced tactical aircraft will be delayed beyond the fiscal year 1997 defense program. Procurement of the Air Force and Navy advanced tactical fighters will be delayed by 2 years, and the Navy A-12 will be reduced from 858 to 620 aircraft.

We have before us this morning to discuss the changes and requirements in tactical air power, Vice Adm. Richard M. Dunleavy, Assistant Chief of Naval Operations for Air Warfare; and Lt. Gen. Charles H. Pitman, Deputy Chief of Staff for Aviation, Marine Corps Headquarters. I gather that this may be your last hearing, sir.

General PITMAN. Yes, sir; that's correct.

Senator INOUYE. I wish you the best, sir.

General PITMAN. Thank you.

Senator INOUYE. We also have Maj. Gen. John E. Jaquish, Director of Tactical Programs, Office of the Assistant Secretary of the Air Force for Acquisition.

We welcome you, gentlemen.

Your appearance today will give us the first discussion by the subcommittee on tactical air elements of the major aircraft review. We look forward to hearing your candid remarks and assessment on this and other tactical air power programs.

As always, we have received your prepared statements. They have been made a part of the record.

So, you may proceed as you wish, sir. I presume the Admiral will lead off.

Admiral DUNLEAVY. Good morning, sir. Yes, sir; I'll take the lead.

We would like to take this opportunity to thank you for inviting us over here to testify on tactical air. As I am the responsible fellow in the Navy for naval aviation, we have submitted our statement for the record. General Pitman has submitted his for the corps, and we, together, stand ready to answer questions for the Navy and the Marine Corps. General Jaquish will handle the Air Force.

Senator INOUYE. Would you like to proceed, sir?

Admiral DUNLEAVY. We're ready for your questions.

[The statements follow:]

STATEMENT OF VICE ADM. RICHARD M. DUNLEAVY

INTRODUCTION

Mr. Chairman and distinguished members of the subcommittee, I appreciate your invitation to present the Department of the Navy's plans for aircraft procurement for Fiscal Year 1991 and to update you on the significant programs which influence Navy and Marine Corps Aviation's contribution to the military strategy of the United States and tactical air power.

BUDGET OVERVIEW

As we start the 1990s, Naval Aviation is embarking upon a critical modernization program necessary for the United States Navy to meets its global national security commitments into the 21st Century. The President's budget responds to this requirement in a measured and fiscally responsible manner.

The Aircraft Procurement, Navy (APN) request for FY 1991 is $9,839 million, an increase of $541 million over the level appropriated in FY 1990. By comparison, our FY 1991 request under the January 1989 Reagan budget of $11,369 million was $1,530 million higher. The decrease recognizes the fiscal realities we face. Production programs (A-6, P-3) were terminated in earlier years in anticipation of urgently needed replacement programs now in the President's FY 1991 request. These include the A-12, T-45, P-7A advance procurement, and remanufacturing F-14D and EA-6B aircraft to achieve modernization. The requested funds will procure 163 new and 15 remanufactured aircraft in FY 1991. These procurement levels, constrained by budget realities, will move toward alleviating long-standing Congressional concerns on naval aircraft shortfalls and aircraft modernization--although at a slower rate than previously anticipated.

NAVAL AVIATION AND NATIONAL DEFENSE

As a maritime nation and the leader of the free world, the United States is, of necessity, deeply committed to sea power for economic vitality and political stability. Globally, naval forces are the most visible reminder to our allies, friends and adversaries, of the United States' resolve to provide an umbrella of stability under which free world political and economic activity can flourish especially in these most fascinating yet turbulent times. The mobile and flexible forces of the Navy and Marine Corps contribute to global stability through their ability to confront potential aggressors and trouble makers with a broad range of military options--broad in geographic impact and capable of rapid response and measured intensity. Our Carrier Battle Groups and Marine Air Ground Task Forces will continue to be the most responsive, flexible and best prepared force, capable of reacting immediately, on a global or regional basis, from presence and low-intensity conflict through the entire spectrum of conflict.

Our nation's diminishing access to foreign bases and overflight rights will limit forward basing and operation of U. S. military forces. Our leadership will increasingly rely upon flexible and mobile naval forces to fill this vacuum in deterring adventurism and providing for regional stability. The untethered capability afforded by our naval forces allows for an enlarged role in supporting national counternarcotics operations and a leading role in detecting and monitoring the aerial and maritime transit of illegal drugs into the United States.

Carrier Battle Groups operate daily as they would in conflict--forward, with our allies, and near where potential adversaries must be deterred. Carrier Battle Groups operate worldwide with forces of our sister services and allies in maintaining necessary levels of readiness and training, not only to deter conflict but to fight and win, should deterrence fail. We exercise Naval Aviation in the environment and geographical areas in which confrontation would most likely occur. Carrier Battle Groups with long range, modern, air arms can deploy for as long as necessary and fight at whatever level of conflict the situation demands. Naval forces can affect world events quickly and decisively, and once political or military objectives are realized, rapidly withdraw without leaving a ripple in the water.

Carrier-based aircraft, in conjunction with shore-based maritime patrol aircraft, provide controlled mobility and flexibility with global reach. Air power adds speed and additional reach in a multi-dimensional (surface, subsurface, land, air) warfighting environment. Carrier aviation can conduct offensive and survivable operations against targets ashore, afloat, or under the sea with the capability of rapid revisit. The ability of carrier-based aviation to employ the vast array of sensors and weapons required for successful antisubmarine and electronic warfare makes for unmatched flexibility. This concentrated offensive and survivable air power is an effective and highly visible deterrent which operates freely, independent of foreign shore bases, political constraints and the sovereign claims of other nations.

Unmanned air vehicles, cruise missiles, and other systems will develop as complements to air power at sea, but none will take the place of aircraft where precision and man in the loop targeting is critical. When it becomes necessary to wrest and maintain air dominance over a battle space, when a quick, decisive strike is called for on short notice, when it becomes necessary to deliver heavy volumes of ordnance on a repetitive basis, when it becomes necessary to combat high speed, multi-threat and versatile undersea forces, there is no substitute for air power at sea.

For the present, our technological edge, better training, tactical initiatives and innovations, combined with the exceptional quality of our people, have given us the advantage. Because potential adversaries, especially in the Third World, are fielding improved and sophisticated weapon systems in every category, there is justification for Naval Aviation to modernize in a balanced manner to maintain an effective combat capability within the limits of affordability as proposed in this budget.

NAVAL AVIATION PRIORITIES/ISSUES

The FY 1991 budget request will keep strong and flexible Naval Aviation forces on-station and fully ready to meet any commitment. Our top priorities are people, readiness, safety, and modernization for a balanced force structure.

People Programs. Maintaining adequate levels of motivated and well-trained personnel to man Naval Aviation is my highest priority. They are the heart of our capability, now and especially for the future. The American white hat and junior officer are the ultimate force multiplier over any potential adversary; however, only well-trained and motivated personnel can maximize the use of the sophisticated weapons needed to wage modern warfare. We must continue to preserve the pilot training rate, the flying hour program, and technical training programs in order to meet commitments and retain our best people.

Our FY 1991 budget request reflects the FY 1990 ship and squadron manpower at the 90 percent level, with zero growth in shore-based billets. Additionally, movement toward a better balance of sea duty tours and shore duty assignments has been delayed. If further manpower reductions are mandated, our ability to bring new weapon systems on line safely, efficiently, and effectively, and maintain our perstempo goals, will be constrained.

In an environment where manpower is stretched thin, retention has historically suffered. Retention of experienced officers and petty officers is fundamental to readiness, economy and safety. Experienced personnel maintain and operate complex weapon systems more effectively, resulting in improved readiness and safety. Retention reduces training cost. In the case of pilots, these costs are dramatic; it costs up to $1.25 million to train a fleet-ready carrier aviator.

Our recent experience indicates the Aviation Continuation Pay (ACP) Program, complemented by the recent increase in Aviation Career Incentive Pay (ACIP), appears to be successful; however, it is too early to assess the impact of ACP and ACIP increases on aviator retention. If additional incentives are required for the nation to retain the proper number of aviators in the Naval service, we will request them.

Growth in high tech industry means our well-trained officers and petty officers are highly sought after in the civilian sector. The Department of Education estimates the number of male college graduates nationwide in 1990 will decrease by 3 percent over 1986 levels, making increased recruiting difficult. It is absolutely necessary that military salaries and benefits remain competitive.

Readiness. Readiness must be maintained for maximum sustained warfighting capability. It is penny wise and pound foolish to reduce short-term readiness. Naval Aviation, the essential component of American sea power, must remain capable of keeping conflicts small in area, time and intensity to avoid escalation. Today, forces on station are ready. This was demonstrated when Iranian warships and gunboats were put out of action in April 1988, when two attacking Libyan MIGs were downed in January 1989, and when responding to the natural disasters of Hurricane Hugo and the San Francisco earthquake. Increased use of Naval Aviation in the fight against illegal drugs is a mission which we take seriously. We strongly support that effort and attempt to maximize readiness and training opportunities afforded by that mission.

To ensure our crews remain ready, the President's budget will keep flying hours at the minimum standards required for safety and readiness. It will provide required training for aircrews at rates needed to maintain squadron readiness. It will provide for shore-based support infrastructure which protects the material readiness of carriers and aircraft while emphasizing safety, reliability, and maintainability in operations.

Balanced Forces. We must continue to provide a balanced Naval Aviation force structure which is optimized and modernized across all mission areas. The current fiscally constrained force structure of 14 deployable Carrier Battle Groups, 13 active and 2 reserve carrier airwings, three active and one reserve Marine Corps airwings, and the requisite number of maritime patrol squadrons and ASW helicopters provide the warfighting capability to execute the CINCs' war plans.

Modernization. Naval Aviation's modernization plan is both evolutionary (F-14D, EA-6B ADVCAP, S-3B, E-2C, AV-8B, and F-18C/D Night Attack) and revolutionary (A-12, ATS, NATF), applying the latest technology to achieve superiority and survivability against sophisticated threats. We will capitalize on what Naval Aviation does best while integrating the strengths of sister services and allies. We will increasingly develop standoff weapons and electronic warfare systems as force multipliers. Through commonality and modular design, Naval Aviation will continue to consolidate the number of different aircraft and weapon types to save manpower and support costs.

Safety. Naval Aviation has just completed its second safest year in history. Our latest update shows the calendar year 1989 rate was 2.46 mishaps per 100,000 flight hours with 55 Class A mishaps. This compares to 1988's record low rate of 2.16 and 46 mishaps. Continued command leadership and proactive awareness at the operator level is a proven method toward ensuring safe and successful conduct of operations in our inherently hazardous profession. Our success is due to the cumulative effects of adequate flight hours and spare parts funding in past years which facilitated aircrew training. But we are not content to rest with low mishap rates. We still had 55 too many mishaps.

FORCE MODERNIZATION AND STRUCTURE

It is essential to gain maximum benefit from each budget dollar; therefore, improvements and added capability are limited to those necessary to improve safety, meet operational requirements, extend service life, enhance survivability, and improve maintainability through reduced costs and lower manpower requirements. Maximum competition, block upgrades, optimum use of acquisition streamlining, maximum standardization and commonality, remanufacturing in lieu of procurement and Weapon System Improvement Programs (WSIP) are all being used to ensure scarce resources are wisely allocated. We are participating, whenever possible, in joint-service development programs. For example, Navy is firmly committed to joint demonstration and validation of the Navy variant of the Air Force's ATF.

Aircraft Carriers. Last year's decision to maintain 14 deployable Carrier Battle Groups was based on affordability and considered a prudent risk to support our peacetime deployment commitments. The long range management plan encompasses new construction, complex overhauls (COH), nuclear refuelings, and the Service Life Extension Program (SLEP). When USS ABRAHAM LINCOLN (CVN-72) joined the fleet in November 1989, the USS CORAL SEA, our "Ageless Warrior," had completed her final deployment and has been decommissioned.

USS MIDWAY continues to operate in the Western Pacific, fulfilling the nation's commitments to our allies and assisting in our necessary Indian Ocean presence. The Secretary of Defense recently announced that USS INDEPENDENCE (CV-62) will replace MIDWAY in FY 1992, which maintains our presence in support of our Pacific Rim partners.

The nuclear refueling and complex overhaul of USS ENTERPRISE, which begins in 1991, is a smart business decision which will ensure a front-line nuclear aircraft carrier (CVN) for an additional 20 years at a reduced cost compared to a new construction replacement.

Carrier Airwings. The Navy's requirement for 13 active and two reserve airwings supports our current 14 deployable carriers. Our two reserve carrier airwings continue to modernize and are readily available in case of national crisis.

Strike Aircraft. The A-12 is a revolutionary concept which will improve our all-weather attack capability by orders of magnitude. As Naval Aviation's top warfighting priority, it will become the primary strike platform of the Carrier Battle Groups and provide a quantum improvement in survivability and operational effectiveness over the A-6. This vital tactical platform will be able to penetrate even the most heavily defended enemy areas to reach its targets. The A-12 is a tactical aircraft with high leverage across multiple mission areas. The Air Force has joined us in the development of the A-12 and is defining a variant for their use.

Until all medium attack squadrons are A-12 equipped, we will continue to operate the long range, all-weather, A-6 Intruder. As an interim measure to ensure its survivability in the near term, we are modifying the A-6 under the System/Weapon Integration Program (SWIP). SWIP and block upgrades will permit a greater stand-off capability and reasonable survivability with HARM, HARPOON, Infrared and Laser MAVERICKS, SKIPPER and SLAM (HARPOON variant), and various reliability, maintainability, and survivability (Integrated Defensive Avionics Programs (IDAP)) improvements.

The F/A-18 strike fighter with its versatility, reliability, and survivability will be the workhorse of carrier air wings well into the 21st Century. Upgrades to the radar, engines, weapon system, and "under the weather" capability will further expand mission potential. We are actively pursuing some of these upgrades with our allies to potentially reduce development costs. The FY 1991 request is for 66 aircraft.

The AV-8B Harrier program has been restructured over the past several years to represent a solid balance between fiscal resources and requirements. Operational experience with the AV-8B has shown the airframe to be reliable, maintainable, and capable of substantial growth. Night attack capability, an upgraded engine, and perhaps a NATO cooperative radar in the future will allow the AV-8B to more effectively accomplish its missions over a broad spectrum of operational and threat scenarios.

Amphibious Forces. The V-22 Osprey was terminated in the Revised FY 1990/91 budget. The FY 1991 budget submission contains initial funding to upgrade our medium lift capabilities relative to those inherent in the current force of CH-46s. In response to Congressional direction, the Institute of Defense Analysis (IDA) is conducting an independent Cost and Operational Effectiveness Analysis (COEA) on V-22 alternatives to satisfy the over-the-horizon medium-lift assault requirements for the Marine Corps.

ASW Aircraft. Naval Aviation is a key element in antisubmarine warfare (ASW), the Navy's number one warfighting priority. The Soviet Union's numerical superiority in submarines requires the use of Naval Aviation as a force multiplier in the form of sea-based antisubmarine aircraft and land-based maritime patrol aircraft, specifically designed for the primary mission of dominating enemy submarine forces. ASW aircraft, such as the S-3B, SH-60B/F, and P-3C, are the key to effective, coordinated ASW, linking surface, subsurface and air elements through an increasingly sophisticated communications network. ASW aircraft are highly responsive, rapidly redeployable weapons platforms possessing the capability of simultaneous track and attack of multiple targets. They can quickly reposition sensors and respond rapidly to long range ASW cues for either successful prosecution or false target elimination. Additionally, aircraft can provide the frequently decisive element of battle--surprise. Our procurement plan is in concert with the ASW Master Plan.

The P-7A Maritime Patrol Aircraft (MPA), formerly called the Long Range Air ASW Capability Aircraft (LRAACA), equipped with the Update IV avionics system, is the planned replacement for our aging P-3s. As we intend with all modernization efforts, the P-7 will be less manpower intensive and more economical to operate. The P-7 will provide much greater payload, longer range, higher transit speed, and survivability improvements which enhance all MPA mission areas, ASW, ASUW, long range surveillance and over the horizon targeting. Recent contractor announcements concerning the P-7 program are currently under assessment. We are pressing ahead in P-3C modifications by requesting funding needed to meet an increasingly sophisticated submarine threat through avionics system upgrades.

We are continuing to procure modernization kits for the S-3B WSIP. During its first operational commitments, the S-3B was highly effective and demonstrated excellence in all mission areas, clearly attesting to the benefits of a successful modification program. With the important role the aircraft now plays in the EW, ASUW, and airborne tanker roles, in addition to its primary mission of ASW, the S-3B has become a fleet workhorse. Unfortunately, affordability has reduced the rate of S-3B kit procurement and delayed program completion until 1996.

FY 1991 is the first year of the SH-60 multi-year contract approved by the Congress last year. The six SH-60Bs will help fill inventory requirements on LAMPS MARK III ships and the 18

SH-60Fs will allow timely replacement of the carrier-based SH-3s which are reaching the end of their service life. Both programs are on track and performing well. The SH-2 will continue to be modernized to enhance its effectiveness in both the active and Naval Reserve forces.

Air Dominance

The Navy must have the capability to establish dominance over certain ocean areas when needed. Naval Aviation is working in conjunction with other warfare sponsors to implement an Anti-Air Warfare (AAW) Master Plan that provides a fleet-wide assessment of force AAW capabilities vis-a-vis requirements into the early 21st Century. The purpose is to identify methods of making existing systems work best in coordinated operations and to outline RDT&E and procurement priorities for the next several years. In view of the Soviet's Naval Aviation developments at sea and proliferation of sophisticated technology to Third World countries, the AAW Master Plan provides a roadmap to meet those emerging threats.

Our procurement strategy includes no new F-14D procurement after FY 1990 but continues with the program of remanufacturing F-14A aircraft to the F-14D configuration in FY 1991 along with continued development funding for elements of the Pre-Deployment Update (PDU) program. This approach is the most cost-effective method to achieve an all F-14D force. Twelve conversions are requested in this budget. Incorporating new high performance engines, a state-of-the-art digital radar, and new digital avionics, the F-14D will pace the threat and ensure continued outer air battle superiority to the Carrier Battle Group.

The Navy is working closely with the Air Force and its contractors in demonstrating and validating a carrier-based version of the Advanced Tactical Fighter (ATF) as a follow-on to the F-14D near the turn of the century. The Navy is fully committed to this program.

The F/A-18 continues to fulfill superbly its multimission requirements, including attack, fighter escort and short to mid-range intercept, as F-14 augmentation in the outer air battle. The capability to perform both strike and fighter missions allows the Carrier Battle Group Commander unparalleled flexibility in configuring the Hornet as battle situations change. The digital weapon system of the F/A-18C yields greater combat effectiveness by including the capability for AMRAAM and ASPJ. Development funding requested for the radar upgrade is absolutely essential.

The E-2C weapons system update program continues to be highly successful. Our FY 1991 request for six E-2Cs will continue to satisfy fleet inventory requirements. Wing crack repair programs are on schedule with only 18 aircraft, compared to 26 last year, grounded for wing cracks. All are now in the repair pipeline. Full modification funding (APN-5), as requested, will maintain the Navy's plan on track.

Electronic Warfare

As sophisticated electronic technology spreads into the Third World, so must the electronic combat systems supporting tactical air forces and carrier battle groups. The EA-6B remains the primary platform for suppression and degradation of enemy defense systems by tactical jamming and counter-target jamming support for battle groups and Marine Corps forces. Because of affordability, additional EA-6B new procurement was terminated in FY 1990. This will necessitate careful management of our assets until arrival of the Advanced Tactical Surveillance (ATS) System. As a warfighting requirement, the EA-6B will be remanufactured into the Advanced Capability (ADVCAP) configuration starting this year.

The ES-3 modification program continues to progress at an accelerated pace to replace the few remaining EA-3B aircraft. The test article aircraft flew on 7 September 1989.

Advanced Tactical Surveillance (ATS). ATS is being developed to perform the battle management, surveillance, and multi-dimensional warfare missions currently accomplished by aircraft such as the E-2, S-3, and EA-6. An independent study by the Center for Naval Analysis was directed by Congress last year. That concept study is currently in progress. It is expected to encompass a common baseline avionics architecture which allows the integration and exploitation of a multi-spectrum sensor suite, common signal/data processing hardware and software, standard DOD data bus structure and reconfigurable controls and displays.

Training. As Naval Aviation fields the most sophisticated and capable weapon systems in history, training for both the operator and maintainer becomes even more important. Training gives us the edge in readiness for combat. Training includes flight hours, classrooms, training support equipment, facilities and targets, adversary aircraft, simulators, training devices and adequate Temporary Additional Duty (TAD) funding to accomplish available training. Technology now allows simulators which replicate both real world threats and our own weapon system capabilities. The initial training in the operation and maintenance of complex weapon systems is best and most economically conducted first in simulators. It is absolutely essential that training devices and simulators be funded parallel with new aircraft systems and modifications and that they arrive before the delivery of the first aircraft or modification, not after.

The T-45 Training System, and I stress system, consists of the T-45A "Goshawk" jet trainer, state-of-the-art visual and instrument simulators, computer based training integration system (TIS), computer aided instructional devices, academics, courseware, and contractor logistics and maintenance support.

The first two flight test aircraft were accepted by the Navy in 1988 and were used for initial operational and developmental flight testing during November 1988. During this initial flight testing, deficiencies were discovered in lateral and longitudinal stability, engine response and total engine thrust, speed brake operation, and several ergonomic factors. We are working closely with the contractor, McDonnell Douglas, in designing and testing appropriate fixes. Improvements in all areas have been noted by both contractor and Navy test pilots. A slip in Initial Operational Capability (IOC) of September 1990 is likely, but I do not see a major impact on the ability to meet pilot training requirements.

Aircraft Modifications. The FY 1991 request is $1,135 million and reflects the funding for installation of aircraft modifications on a full-funding basis in accordance with the policy change directed in the FY 1990 Appropriations Act. Modernization, as reflected in the APN-5 account, provides us with the safety, reliability, enhanced warfighting improvements critical to force modernization.

Aviation Support Equipment

Our request for support equipment in FY 1991 is only slightly increased over the amount appropriated last year. The appropriations provided from FY 1984 through FY 1988 have been dedicated to fully outfitting our deployable carriers. Full funding as requested in FY 1991 is needed to provide continued support of Consolidated Automated Support System (CASS) production, CV replenishments, required support equipment for aircraft procurement, and the replacement of obsolete equipment.

CASS development is on schedule and will complete FSED this fiscal year and is essential for the support of the A-12 and all future aircraft and avionic systems. CASS offers a significant savings in manpower, training, support equipment, operating cost, space, and combat readiness.

READINESS AND SUSTAINABILITY

The FY 1991 budget is balanced to sustain the high state of day-to-day readiness required by Naval Aviation tactical forces through prudent investments in training, personnel, and material support programs.

Flying Hours - An Imperative for Fleet Readiness. The standard readiness indicator for the flying hour program is the primary mission readiness (PMR) attained by warfighting units (TACAIR/ASW). For each type aircraft, a pilot needs to be trained in various mission skills--skills which must be continually renewed for proficiency. Through experience, we have determined the average number of hours per month required to achieve and maintain these skills and fighting spirit. Our budget development process is designed to identify the minimum funding levels necessary to provide the flight hours to maintain crew readiness. The FY 1991 budget request is sufficient for us to achieve 85 percent of that level through flying and an additional two percent PMR through the use of simulators. The planned 87 percent PMR is short of our peacetime goal of 88 percent. We know that further reductions will result in a loss of readiness, a reduction in safety, and a decline in pilot retention.

The average TACAIR/ASW crew flies 25 hours per month. We believe this reflects the absolute minimum for retention of critical combat flying competence, comfort, and confidence. Air wings preparing for deployment and those already deployed are accorded priority for flight time while those returning receive less. It must be emphasized that the opportunity to fly is critical in the retention of aviators. We are closely monitoring readiness indicators as Naval Aviation's contribution to drug interdiction increases and capitalizing, when possible, on training and readiness opportunities.

Airspace. Another separate, but related, issue is the availability of adequate Special Use Airspace to maintain Naval Aviation readiness. Special Use Airspace is essential for attaining acceptable flight crew proficiency across the full spectrum of warfare, for developing and evaluating airborne tactics, and for testing and evaluating advanced technology aircraft and weapon systems. Low observable and terrain hugging aircraft, high-speed missiles, and over-the-horizon standoff weapon systems and tactics are but a few examples of added capabilities that increase required air and sea space.

Continued emphasis on joint operations, while appearing to provide relief, actually places additional demands on airspace size and frequency of use. Available airspace is under increasing pressure from commercial air, economic, political and environmental sources. Each source is represented by special interest groups which compete with military interests. The Navy is faced with the dilemma of requiring increased airspace to support emerging capabilities, while current trends are reducing and restricting available area usage which places readiness at risk. We are seriously working at solving the myriad of attendant problems, but I would much appreciate the Members' understanding of our dilemma.

Aircraft Material Readiness. While many factors, including personnel, training, general logistics support, spare parts, and depot rework funding all affect material readiness, the primary indicator used to measure aircraft material readiness is the Mission Capable (MC) rate. The MC rate goal is 73 percent, which was achieved in FY 1988. Due to fiscal constraints and in order to maintain program balance, funding in areas affecting MC rate have decreased since FY 1987. The result was expected to be a decline of about one percent per year in the MC rate. The FY 1991 MC rate is projected to be 70 percent which tracks with our projections and is acceptable considering the fiscal and political climate.

Aviation Spares. The FY 1991 aviation spares account has been pared to bare minimum requirements and represents our best efforts at a balanced approach within the limits of affordability. We plan to procure 100 percent of engine spare parts requirement, which directly affect Mission Capable rates. We plan to procure 70 percent of avionics system's repair parts which will have more of a direct effect on Full Mission Capable rates than Mission Capable Rates. As in recent years, reduced funding for spares will require intensified management efforts that may include increased cannibalizations, additional "crossdecking" of assets, off-ship requisitions, and increased maintenance man hours.

WEAPONS DEVELOPMENT/PROCUREMENT

Power projection is carrying the fight to the enemy and putting ordnance on target. Sufficient quantities of practice ordnance are essential to accomplishment of that objective. Skills must be maintained on a continuous basis during peacetime. Although increased weapons procurement in recent years has all but eliminated the requirement to cross-deck weapons on deploying combatants, we still have not completely filled the resupply pipeline and forward prepositioned inventories of the more sophisticated weapons like HARM and HARPOON. However, we believe the quantities reflected in the FYDP reflect an acceptable risk in this revolutionary and fiscally constrained environment.

Several weapons are worthy of special mention because of their contribution to warfighting enhancements.. We are proceeding with the development of the AIM-9R as a top priority. It features an improved capability in clutter and a significant counter - countermeasure capability. As we modernize our air-to-ground capability by increasing our standoff delivery capability, we increase aircrew survivability. Continuing the development of AAAM, AMRAAM, and the Advanced Interdiction Weapon System (AIWS), we are necking down the different types of weapons in the fleet while providing target discrimination with man-in-the-loop capability.

Previous increased Congressional funding for sonobuoys will help meet inventory requirements and future consumption requirements for ASW training while sustaining war reserves. The FY 1991 request has been reduced to the lowest prudent level. Even though expenditure rates may exceed FY 1991 procurement quantities, accumulated inventories will continue to support the ASW operational tempo in the near term, and we accept the balance between associated warfighting risks and available fiscal resources.

Our air-launched training ordnance has been reduced to the absolute minimum with acceptable risk of ordnance delivery readiness. Since readiness typically lags this investment by several years, the full impact of reduced funding is not readily visible. Only one-third of fleet requests for live ordnance training is approved in order to avoid erosion of war reserves. Our future outlook is toward the Advance Bomb Family (ABF).

SUMMARY

As a maritime nation, sea power is essential to our national objectives. Naval Aviation adds dimensions to sea power that are not available from other means. Naval aircraft provide reach, flexibility, versatility, speed, and concentrated firepower. They are quickly reloadable.

The FY 1991 budget request emphasizes people, readiness to respond, and force modernization which will allow Naval Aviation to continue meeting national commitments. Since 1945, successive presidents during crises and conflicts have always asked, "Where are the carriers?"

People must always remain our top priority. Our people ask for very little. They willingly deploy throughout the world, enduring six-month separations from their families and friends on a routine basis. They do so from a deep sense of commitment and love of country. We must return their commitment and devotion to duty with adequate pay and benefits, and a consistent personnel/operational tempo. These things are critical to protecting our national investment in a ready Navy.

Our Carrier Battle Groups are the centerpiece of our naval capability because they represent the most effective and complete way to establish and maintain control of the seas and, when necessary, project power at sea and ashore. There is no substitute for them in peacetime or conflict. In order to pace the emerging threats of the coming century, we must introduce the technologies represented in new weapons systems, such as the A-12.

Naval Aviation makes extraordinary contributions to national security. The continued support of Congress in protecting our investment in modernization and balanced force structure, coupled with the dedication of our courageous professional Sailors and Marines, will ensure our continued strong contribution and steady course.

STATEMENT OF LT. GEN. C.H. PITMAN

I am pleased to have this opportunity to discuss Marine Aviation and to present our plan for aircraft procurement for fiscal year 1991. Our request is not ambitious, nor is it austere. It is a balanced program of new procurement and modifications to existing systems designed to meet our operational requirements.

For the past several years, our focus has been to procure systems that were intended to meet the threat of Third World instability, illegal drug trafficking, terrorism, and regional war. The events in the Philippines, the Persian Gulf and Panama have increased the demands on our preparedness and our capability in responding to a broad spectrum of operational scenarios. These events have increased our dependence on precision, surprise, and night operations.

The Commandant of the Marine Corps is steadfast in his requirement for a total force whose elements are complementary in their capability to operate across a broadening spectrum of requirements. The baseline requirements are the 18 missions that are integral to the Marine Expeditionary Units and which, by extension, also apply to larger Marine Air Ground Task Forces (MAGTFs). To achieve that capability in a declining budget, we are modernizing the aircraft in the inventory and replacing those that are incapable of being modernized to meet the threat or to support the missions of our Marine Air Ground Task Forces.

Today, more than ever, our emphasis is on low- to mid-intensity conflict. Successful mission execution depends heavily on mobility, rapid response, bold action, and effective use of environmental factors such as darkness and weather to our advantage.

The fiscal year 1991 program is designed to continue our progress toward realization of those warfighting goals with balanced modernization and enhancements across all aircraft communities and mission areas. Our contingency planning stresses night and adverse weather operations.

Naval Forces have met our Nation's expeditionary needs throughout our history, and we continue to emphasize the expeditionary capabilities that make our Marine Corps capable of forcible entry and sustained operations ashore at long ranges. Renewed calls for withdrawal of U. S. Forces from overseas bases underscore the increased demand that will be placed on sea-based forward deployed--rather than forward based-- forces.

Although peace may be breaking out in Eastern Europe, events in other parts of the world serve as reminders that the outbreak of peace in one area of the world is not necessarily contagious. The oceans that insulate beleaguered peoples from the peace process are the same oceans that isolate struggling governments from those who are willing to lend assistance. If the peace process is to succeed, Naval forces must maintain the capability to influence the action through judicious application of conventional forces capable of power projection.

The Marine Corps has a hard earned reputation for frugality in maintaining a potent fighting force. For a small portion of the Defense budget, the Marine Corps provides a major contribution to our overall defense. Our aviation program is lean, and there are no frills. It is tailored to meet our minimum requirements in order to execute our missions. But our requirement for resources becomes more acute as we defer needed improvements into the outyears under the mistaken perception that we will get well later. For us, the outyears have arrived. We seek your support in attaining those resources that are essential to maintain our strength and readiness.

With those thoughts in mind, I would like to address some specific aspects of Marine Corps Aviation's fiscal year 1991 request and to articulate our plans for the future.

ASSAULT MEDIUM LIFT

Although our FY 91 request is modest, this is the most important item in our request. Since 1978 successive Deputy Chiefs of Staff for Aviation have emphasized the need to replace our fleet of CH-46Es and CH-53 A/D helicopters, and that need is more critical now than ever. Our medium assault helicopters are the very heart of Marine Air Ground Task Forces. In maneuver warfare, they provide the vertical dimension to the battlefield and are one of the commander's true maneuver elements. They provide the vast majority of our Marines with the tactical mobility they require on the modern battlefield, while also functioning as primary movers of equipment and logistics support.

We are awaiting the results of the Congressionally mandated Cost and Operational Effectiveness Analysis before we make any decisions on specific aircraft for this critical mission area. We do know, however, that, regardless of the selected alternative, the solution must be a fully capable combat aircraft with state-of-the-art communication, navigation, and defensive systems.

There is a common perception, in some circles, that inexpensive rotorcraft are available today and that these aircraft can fulfill the requirement for military applications. While this perception may have been true in the past, it is no longer the case if the aircraft is designed to be more than just a flying truck. Today's and tomorrow's combat aircraft, fixed wing and rotary wing, will be faced with far more sophisticated adversary systems and increasingly complex missions even in the Third World and in terrorist encounters. The next generation of medium assault rotorcraft must be capable of operating in the same environment as our fixed wing aircraft, especially at night and in adverse weather. In order to do this, and to survive, our aircraft must have technologically modern systems, including self-contained navigation systems, integrated night cockpits, self-protective armament, and designed-in survivability.

A replacement for our medium assault fleet will be expensive in today's fiscal environment, but we are continuing to reduce the number of type/model/series of aircraft ("neck down") in an effort to keep our overall force affordable. Additionally, we are seeking a solution that will be more than a short-term fix. The technology is at hand that will allow us to develop aircraft and systems that will carry us well into the next century.

Our medium assault replacement will take that fact into account. Upon completion of the on-going COEA, we will take a very close look at candidate systems and assess their combat worthiness, operating costs, manpower impact and potential for enduring service. Experience has very graphically demonstrated that planning for a 20 year service life for our rotorcraft is optimistic. We must give stronger consideration to solutions which will remain viable for the 25 to 30 years that has become the norm.

NIGHT AND ADVERSE WEATHER ENHANCEMENTS

The night belongs to the attacker. This well known dictum of warfare is as true today as at any time in history. For several years, the Marine Corps has been developing systems and equipping aircraft to take advantage of the night. Our approach has been to modify existing airframes to develop an aviation force capable of meeting the requirements of our supported units.

During the last calendar year, we stood up our first AV-8B Night Attack Squadron at Yuma, Arizona. The Night Attack Harrier incorporates forward looking infrared (FLIR), a moving map display, night vision goggles, a night cockpit and an improved heads up display that allows the pilot to navigate and to locate targets while flying close to the ground. I am confident that the Night Attack Harrier will provide the MAGTF a much needed capability to conduct effective close air support at night, under the weather.

The Night Attack system was developed to provide a much improved capability at reasonable cost. It does not obviate the need for a radar, and we are still optimistic that the radar system will prove an affordable option.

With relatively simple and inexpensive subsystem improvements we can reduce the need to buy new aircraft and extend the life of those in the inventory. This practice has brought us close to where we want to be, and with your continued support these modifications can be completed.

The Night Targeting System (NTS) for the AH-1W Super Cobra is one example. Operationally, NTS expands the capabilities of the AH-1W to provide precise close-in fire support and assault fire suppression 24 hours a day.

The system provides greatly enhanced night operations by incorporating a forward looking infrared sensor with multiple fields of view, a laser target designator, and a laser range finder. It allows nearly autonomous operations for the AH-1W and greatly improves weapons accuracy, while providing pilots with visual cues necessary for earlier target detection and navigation. NTS is also designed to reduce maintenance requirements when compared to our existing system.

NTS is a cooperative program with the Government of Israel, and we are pleased to note that the program is ahead of schedule and under cost. Your support of this vital program, and of the AH-1W program in general, has led to potential Foreign Military Sales to several of our allies.

There are two programs under way to give the F/A-18 a true night/all-weather capability. The first is the upgrade for the APG-65 radar, and the second is the addition of software improvements that will incorporate the Radar Beacon Forward Air Controller (RABFAC) feature which is currently in our A-6Es. RABFAC gives us the all-weather capability to deliver close air support. These programs are particularly important as we transition our all-weather attack squadrons from the A-6E to the F/A-18D.

The Helicopter Night Vision System (HNVS) will provide an integrated night cockpit, forward looking infrared, and an Integrated Helmet and Display Sight System (IHADSS) for the CH-53 series aircraft. HNVS offers a marked improvement over current visual systems and will measurably reduce pilot workload by integrating navigation information with other cues.

Similar modifications are in progress on two of our other assault support aircraft--the C-130 and the OV-10. Due to the higher priority given to upgrading the helicopter fleet these programs are proceeding more slowly than we would like, but we are firmly committed to modernization of these key aircraft.

Technology alone cannot solve all of the problems associated with fighting at night and in adverse weather. Therefore, Marine Aviation is committed to modifying our training and, where necessary, our doctrine in an effort to further enhance our capability. We are seeking hardware solutions only where training cannot overcome our deficiencies. Daylight, fair weather conflict is a high risk proposition in today's sophisticated weapons environment.

READINESS AND SUSTAINABILITY

Some will argue that, with the apparent decline of the Soviet threat, we cannot justify maintaining such a high state of operational readiness as we have in the past. Others will say that, while the threat level may have decreased, we cannot afford to drop our guard. I must cast my vote with the latter group.

We have found from hard experience that it is much more difficult--and more costly--to regain military capability than it is to maintain it. I do not suggest that we ignore the changing world climate, but we must remain combat ready.

There is little question that, as the Nation reacts to the rapidly changing world situation, some force reductions will be necessary. Whatever occurs, MAGTFs must be in a position to act, rather than react, to any crisis with a fully capable Aviation Combat Element. Unrest in the Third World, persistent terrorism, and the seemingly ever-present scourge of drug trafficking continue to threaten U. S. interests at home and abroad. These factors require that we maintain a high state of readiness.

Our Commandant's emphasis on Special Operations Capable MAGTFs to meet those challenges is stronger than ever. Consequently, the demands of training and the requirement to keep our equipment ready has not diminished. Flying hours for aircrews, steaming hours for ships, spares and repair parts for equipment must be viewed as an investment in capability--not simply as an expenditure of resources.

The potential for conflict--albeit on a smaller scale--still remains. Missions such as the evacuation of embassy staffs, protection of vital facilities, or isolation of forces hostile to a friendly government will require that future missions be carried out with precision. To accomplish these missions, our aircrews need adequate flight time for training, and our maintenance personnel need the parts to repair their equipment.

We are beginning to see the results of earlier decreases in spare parts funding. There has been a slight, but noticeable, decrease in aircraft readiness over the past several years. Much of this downward trend is attributable to a 2.5% increase in the Not Mission Capable, Supply (NMCS) rate.

The problem is worse, of course, for some of our older airframes. In some cases, suppliers have gone out of business. In others, vendors have stopped making specific parts because there isn't enough demand to justify continued production. This situation places an increased demand on some of our depot maintenance activities and has the potential to drive readiness even lower.

Our request is designed to maintain the current level of 25 hours per crew per month, not to spend at increasing rates when the top line is declining. The aircrews who are flying 25 hours per month this year need to fly at the same rate next year if they are to maintain reasonable proficiency. Our request for spares also supports this goal.

ORDNANCE

Another factor in the readiness and training equation is the availability of ordnance, not only for contingency but for training as well. Through your past support we are getting caught up in our non-nuclear ordnance requirement for machine gun ammunition, but there are areas where we are falling farther behind. Shortfalls in some of our missile and rocket programs are in the thousands, and in the case of 2.75" rockets the shortfall is approaching 200,000 rockets.

These inventory shortfalls do not account for training requirements. Although we have made considerable progress in substituting simulator training in lieu of some training ordnance expenditures, it is not necessarily effective to follow a similar practice with all types of ordnance. This is especially true in the case of some of the so-called "dumb" weapons.

Because such weapons are not precision guided, aircrews and ordnance handling personnel must train with live ordnance. It is the only effective way to learn handling, delivery and performance characteristics of these weapons. Our request reflects a compromise among competing budget priorities and does not fully meet our overall requirement.

AVIATION SAFETY

Although 1989 was the second safest year in Marine Aviation history, we are not satisfied. Our mishap rate last year was 3.52 per 100,000 flight hours, up from 2.68 in 1988. Aircrew error continues to be the single most significant factor in aircraft accidents. Analysis of mishaps over the past several years indicates that many are caused by a breakdown in coordination among crewmembers in multi-piloted aircraft. In response, we have instituted a program to improve aircrew coordination at all levels in the training pipeline.

The program is very similar to that used in the commercial sector to train airline pilots. Although it's too early to measure results, I feel strongly that this dedicated training program will pay big dividends in the future.

New procurement and aircraft modification are also part of the solution. As we continue to develop our special operations capability, and as we increase the degree of difficulty in mission execution, our hardware must be updated to match the requirements levied on the aircrews. I firmly believe that the night/adverse weather enhancements mentioned earlier will have a beneficial impact on our mishap rate by reducing aircrew workload, even under our most demanding mission profiles.

AIRCRAFT PROGRAMS

F/A-18 HORNET. The F/A-18 has proven itself to be an extremely effective multi-mission weapons system. It provides a quantum leap in operational flexibility by incorporating a state of the art air-to-air and air-to-ground capability in a single platform. This increases its mission effectiveness and overall utility while reducing the requirement for dedicated single-mission aircraft.

We are continuing to develop and refine the expeditionary qualities of the Hornet. Concept development is underway to conduct F/A-18 operations from forward operating bases in much the same manner as the AV-8B. When married up with new, portable arresting gear, the F/A-18 will be capable of operating from expeditionary surfaces less than 2000 feet long. Coupled with its increased operational reliability, the aircraft is capable of increased sortie rates where those sorties are most needed--just behind the front lines.

Although we do not have any F/A-18 squadron's deployed aboard aircraft carriers today, the capability to do so provides additional flexibility and gives us an important link with our Navy squadrons. This interoperability gives the National Command Authority and the CINCs a true force multiplier because it enables them to stage Naval squadrons ashore or augment carrier air wings from shore-based assets.

Following last year's Congressional direction, the Marine Corps began transferring its A-6s to the Navy in anticipation of receiving the F/A-18D. That transition has begun with the introduction of the two-seat variant into the Fleet Refresher Squadron, VMFAT-101. We will deliver aircraft to our first tactical squadron, VMA(AW)-121, during the third quarter of this year.

The Department of the Navy request for 66 F/A-18s in FY 91 includes approximately 25 aircraft for the Marine Corps. Of that number, 12 will be the two-seat-D model. With your continued commitment to this program, we will transfer our last squadron of A-6s to the Navy in 1994 and complete our transition to the "D" in 1995.

AV-8B. Fiscal Year 1991 is the last year of a three year multi-year procurement for the Harrier. Your steadfast support of this vital program has maintained Marine aviation's lead in VSTOL development and operational employment. Completion of the FY 91 program will bring our total procurement to 276 of the 323 aircraft we require for the active force.

I ask your continued support in our program to replace the existing engine with the -408 engine. Progress on the engine test program has been good, and the results are very encouraging. We plan to begin installing the new engines later this year, as aircraft come off the assembly line. We will then retrofit existing aircraft as soon as possible.

The Department of the Navy is conducting negotiations with the Governments of Italy and Spain to explore foreign military sales of a radar equipped variant of the Harrier. The discussions are proceeding, and the prospects look very favorable. When consummated, the agreement will give us the option to forward fit radars into the remainder of our multi-year procurement (MYP) aircraft, as well as any further procurement.

We consider this option extremely important. The AV-8B is the only U. S. tactical fixed wing aircraft produced in the last ten years which does not have a radar. The decision to forego the radar in the early stages of the program was a prudent one at the time, owing to affordability. Now, with routine shipboard deployments, and with increased emphasis on night and adverse weather operations, the radar variant is more important than ever.

CH-53E. The FY 91 request for 23 heavy lift CH-53Es will bring our procurement to date to 135 aircraft, measured against our requirement of 191. The Marine Corps is thoroughly committed to meeting the procurement objective. As the only heavy lift option capable of meeting our operational requirement, the CH-53E has proven to be a vital element of our assault support fleet.

The uncertainty of varying annual quantities has provided us with little bargaining room, and I feel strongly that this system is a prime candidate for multi-year procurement. Such a plan would almost certainly give us the leverage we need at the bargaining table to reduce the cost of these aircraft.

EA-6B (ADVCAP)/RF-4B. The program to remanufacture and update the EA-6B to meet the current and projected electromagnetic threat is another example of Navy/Marine Corps co-development. The FY-91 request for three aircraft begins the process of modernizing our aging force. Our long-term objective is for one active squadron of 18 aircraft and a reserve squadron of six aircraft.

Unless this program continues, the Marine Corps will be faced with a declining inventory by 1996, through normal attrition. As the only dedicated electronic warfare platform in the Marine Corps' inventory, the EA-6B is absolutely essential to the conduct of operations in the current and future threat environments.

We are continuing to retire our only squadron of RF-4B tactical reconnaissance aircraft. The retirements will be complete by the end of FY 91, and the mission will be assumed by F/A-18s using the Advanced Tactical Aerial Reconnaissance System (ATARS) when that system comes on line.

AH-1W. Although the AH-1 model aircraft has been in operation for over 20 years, the "Whiskey" is, in all respects, a new aircraft with impressive versatility. Your support of this comparatively inexpensive program has provided us with an agile and supportable platform that performs a myriad of assault support missions.

Its ability to employ mission-tailored weapons (TOW, HELLFIRE, SIDEARM, SIDEWINDER, rockets and 20 mm cannon) has piqued the interest of several of our allies. The AH-1W has received considerable interest in the foreign military sales market and has the potential to significantly increase our interoperability with other nations. The addition of the Night Targeting System will increase that potential even more while providing a significant night fighting improvement.

This program experienced some significant problems a few short years ago, but those problems are behind us. The program has gone from one that was almost inexecutable to one that is now almost 200 days ahead of schedule and gaining.

RESERVE AVIATION

Our Reserve aviation component is healthy and contributes significantly to our overall mission effectiveness. The Reserves train and operate with the active force on a daily basis, both in the U. S. and abroad. Your Marine Corps is committed to ensuring that its Reserve component remains fully effective as an integral part of our total force.

The past year has seen the transition of a Reserve fighter squadron to the F/A-18A at El Toro, California, and the initial standup of our second KC-130T squadron at Stewart International Airport, New York. As a result of your actions last year, the procurement of two more KC-130Ts will continue our efforts toward our goal of two KC-130T squadrons for the Reserves.

The funding provided for six AH-1Ws in the NGRE account will allow us to replace our VietNam era AH-1J, which has no credible anti-armor capability. It will also help us reduce the number of type/model/series aircraft we are required to support. More importantly, continued Reserve modernization will provide us the opportunity to more fully integrate the capabilities of our Reserve force with the active component, streamline our training programs, and enhance the Commandant's commitment to total force compatibility.

COMMAND AND CONTROL

Although our Command and Control systems are not counted in the APN account, I think that it is important to mention them briefly. The aircraft systems you provide for us through continued appropriation cannot be totally effective without adequate means for command and control. Our programs in this mission area are not growth programs. Our efforts are aimed at replacing obsolete technology with systems that are compatible with the increased sophistication of the aircraft and missiles in today's inventory, while simultaneously increasing our tactical mobility and reducing its footprint.

Many of our programs are carried out with the other services in order to realize the economies associated with cooperative development and to reduce support and operating costs. We also will reap considerable operational benefits by increasing the level of interoperability among the services and with our allies.

PILOT RETENTION

We have a shortage of qualified aviators. We have been able to reduce the severity of this problem through a program of aviator conversions and transitions among aircraft communities and increased productivity in our Fleet Refresher Squadrons. Admittedly, these are short term solutions, so we must continue to explore options to reverse the current trend.

We continue to attract sufficient numbers of qualified applicants. Your efforts to help us achieve a longer range solution through increased compensation and adequate flight time should significantly improve the situation over the course of time.

CONCLUSION

Marine Corps aviation, in the aggregate, is healthy. However, I cannot overemphasize the seriousness of our medium lift shortfall. We are prepared to move out smartly when we have the results of the COEA. This program is our Commandant's, and my, number one priority.

We are fully cognizant of the fiscal environment that we face, and we understand that not all of our problems can be solved by throwing money at them. The reduction of aircraft type/model/ series has our continued attention and effort.

Naval Aviation remains one of the most flexible, responsive and versatile weapons in the U. S. arsenal. When coupled with its supported forces, Naval Aviation's ability to be anywhere, anytime to carry out U. S. policy is unrivaled. Our presence is a clear signal to our friends and to potential foes that our commitment is strong and enduring. Perhaps more importantly, Naval Aviation can carry out its missions without dependence on host nation support or overflight rights and without the operational encumbrances that often accompany such second party agreements. Yet, if the situation should call for support from shore based facilities, Naval Aviation offers that option as well.

Your Navy and Marine aviation forces have carried the flag to every part of the world, in peace and at war. We remain committed to that challenge today as much as at any time in our Nation's history. We are on station 24 hours a day, every day, and we will be ready whenever the call comes.

STATEMENT OF MAJ. GEN. JOHN E. JAQUISH

Mr. Chairman and Members of the Committee: I am pleased to appear before you today to review the Air Force's Tactical Airpower Procurement activities for Fiscal Year 1991.

Our procurement strategy has been formulated against a background of political change and technological capabilities of unprecedented proportions; in brief, the world threat has changed and continues to evolve in a manner unforeseen even a short while ago. The immediate likelihood of a Soviet attack in Europe seems to have declined as the Soviet Union focuses on internal problems and Eastern Europe pursues capitalistic democracy. Ongoing arms reduction negotiations may produce an even more secure environment between the superpowers. But the superpowers are no longer the only nations that possess sophisticated weapons. Several Third World nations have increased their military capabilities substantially, and new threats are on the horizon.

Despite prospects for a more peaceful future, unpredictability in the USSR and post-communist Eastern Europe dictates a need for significant U.S. military strength. The Soviet Union remains the only power capable of threatening the existence of the United States. Soviet leaders talk about smaller armed forces, but they do not talk about weaker armed forces. We expect the cuts they will make to come primarily from forces that are not combat ready. These reductions will give the Soviets a more affordable force of higher quality.

The Air Force must maintain the essential capabilities needed to perform its mission. U.S. resolve, backed by highly capable military forces, has played a key role in the changes we're witnessing in the communist world. The Air Force must continue to be postured in response to our adversaries' capabilities despite the current bloom of friendly intentions.

Another dimension is added by our concern for the federal deficit. The FY 91 budget is the fifth year of a decline in real terms for the defense budget, and we contemplate deeper reductions to come. Our efforts to balance the conflict between our many mission requirements and scarce resources are based on two themes: First, evaluate force structure mix and average age, then cut the force to a minimum prudent level to maintain essential capabilities, and second, develop modern weapon systems for each mission area only when required--that is to say--develop new systems only after our ability to effectively improve current systems is exhausted.

As you know, Secretary Cheney recently reviewed two of our tactical aircraft developments under the Major Aircraft Review (MAR)--the Advanced Tactical Aircraft (ATA) and the Advanced Tactical Fighter (ATF). Although schedule extensions for both programs were ordered, the Secretary's review confirms our need to continue their development. I will discuss these programs later.

To reduce force structure, we have terminated or curtailed several programs: Air Force participation in the Airborne Self-Protection Jammer (ASPJ) was terminated due to affordability. The FY 91 budget funds the procurement of 36 F-15E aircraft--the minimum economic production rate--ending procurement with a total of 200 aircraft purchased. And procurement of Maverick missiles was terminated based on adequate inventory and the complementary nature of the sensor fuzed weapon.

We can partially offset the reduced force structure by upgrading or modifying current inventory aircraft to increase capability, maintainability, and service life. But we are also developing future weapon systems with special attention paid to life cycle costs in order to provide our own effective but affordable force.

Our two highest priority programs--the Advanced Tactical Fighter (ATF) and the Advanced Medium-Range Air-to-Air Missile (AMRAAM)--are required to maintain the technological lead needed to achieve air superiority. Although ATF production has been delayed two years, it is still a crucial program. As Secretary Cheney said in his MAR statement, "An air superiority aircraft must find, engage, and defeat enemy aircraft before they reach our friendly ground, amphibious, or maritime forces." The ATF will incorporate low-observable technology, supersonic cruise and maneuver, and advanced avionics to yield a lethal and survivable fighter required to defeat future threat systems. The AMRAAM, now in low rate production, is undergoing an extensive reliability test program scheduled to be completed in time to support a full-rate production decision later this year. As you know, last Friday we successfully demonstrated the "4 vs 4" test scenario. This missile, with an improved resistance to electronic countermeasures, will provide the launch-and-maneuver, multiple-kills-per-engagement capability necessary to combat advanced threats while sustaining minimal losses.

The Air Force also actively supports the Navy A-12 development program and has programmed funds for the development and production of an Air Force variant, the Advanced Tactical Aircraft (ATA). Production has been slipped outside the Six Year Defense Plan, but projected target and threat characteristics by the year 2000 dictate our requirement for a greatly improved surface attack aircraft. The ATA will satisfy this need.

The Air Force's tactical procurement activities are part of a carefully balanced program. We want to continue this nation's superpower status and world technological leadership at the same time defense spending is being slashed. We must use good business sense in dealing with defense contractors, and avoid irreversible actions which would place us in a position of weakness should adversarial intentions return.

To perform this balancing act, we need modern military forces, capable of defending the United States against the increasingly capable forces of tomorrow's adversaries. We need stable funding to back the development and acquisition of weapon systems at efficient production rates. And, Senators, we need your support too.

Thank you, Mr. Chairman, for the opportunity to make this statement. I will be happy to answer any questions.

A-12 AIRCRAFT

Senator INOUYE. OK; that's the way we like it.

Admiral, as a result of this review, the Secretary has recommended a reduction in the number of A-12 aircraft. What will be the impact of this reduction on the number of squadrons you plan to field?

Admiral DUNLEAVY. In the major aircraft review that Secretary Cheney conducted, he used as a basis for his number to go from 858 to 620 the figure of 12 carrier battle groups and respective air wings.

At the present time, under the guidance we have inside DOD to the Department of the Navy, we are basing our plans on 14 carrier battle groups, with 13 Active and Reserve air wings. So we have to articulate our requirements inside the Department of the Navy, through the Department of Defense. Still the 858 is our requirement until we get guidance from OSD to change our figures.

We still firmly believe that the A-12 is a hard requirement to replace the A-6. The numbers of how we are going to determine that, based on force levels, is something internal to the Department of Defense now and it's being discussed at the highest levels. We are involved in it. At the present time, we can't speak about what the force level is going to end up at, until these deliberations are over.

Senator INOUYE. Can you tell us something about the status of the program itself? Is it on schedule? Is it within cost?

Admiral DUNLEAVY. The A-12 program is on schedule. We are very, very pleased with it. We had a review in St. Louis just a week ago this past Thursday by the program managers for both McDonnell Douglas and General Dynamics with the Navy. Its cost—hopefully everything is going to be declassified, well, not everything, but most of the program will be declassified within the next 2 or 3 weeks. Secretary Atwood signed a document March 1 starting the declassification process so that we can go from black to white. The entire package now has gone forward from the Navy. It is in the Office of the Secretary of Defense at the present time.

You should be receiving the 14-day notice letter, hopefully, soon so that we can get on with the declassification of the program. At that time, we can get into cost and requirements, a general description of the capability of the aircraft, and probably an artist's conception of what it is going to look like.

We can talk in open forum about how we are very, very pleased with the progress of the A–12 program. From an operator's perspective, everything we see is exactly what we want, a significant upgrade from the A–6. It is going to change the way we do business at sea, across the entire spectrum of tactical warfare.

We are pushing technology. American industry is answering those challenges from our investigations and observations, they are answering it with a full-up round, and we should have it, with God's help, airborne some time at the end of this year.

Senator INOUYE. All right.

Will you, the Air Force and the Marines get together and tell us why the Air Force and Marines don't consider their A–12 as important as you do? I believe the Air Force has decided to delay its procurement; isn't that correct?

General JAQUISH. Yes, sir; as a part of the major aircraft review, we looked at the age of the current fleet. I believe, as you may know, we have two wings of F–111's and two wings of F–15E's.

Senator INOUYE. The Marines have decided not to buy them?

General PITMAN. Yes, sir; at the present time. That does not mean that we don't support the need for the aircraft. Our mission, which is primarily close air support, does not require the A–12. The A–12 is designed for long-range strikes and much of the expense of the aircraft is a result of its capability to conduct deep interdiction and those kinds of long-range missions.

Senator INOUYE. But you still think it is a good aircraft?

General PITMAN. Yes, sir; absolutely.

We have been in on the source selection process. I personally served on the source selection board and then just last week reviewed the performance of the aircraft again with Admiral Dunleavy. It is a great machine, sir. We need it.

General JAQUISH. Sir, I would just like to comment from the Air Force perspective.

The Air Force is very supportive of the A–12. We did slip it as a part of the major aircraft review to a 1998 procurement. But that was based on a judgment of affordability and the age and current status of our interdiction fleet.

But the Air Force has no problems with that airplane whatsoever.

AIR FORCE ATF

Senator INOUYE. The unit costs of the Air Force ATF was about $90 million before this review. Can you tell us what the new unit cost will be, assuming that the Cheney recommendation is carried out?

General JAQUISH. Senator, we typically refer to the cost of the airplane in base-year dollars, which were 1985 dollars. In the 1991 President's budget, at that point, the base-year dollar figure, unit cost, for that airplane was $40.6 million.

As a result of the major aircraft review and the delay of production 2 years, that will grow in base-year 1985 dollars to $43.5 million per copy.

Senator **Inouye**. The Secretary indicated that a new review of total force structure could lower the inventory objective of the ATF.

What alternative inventory objectives and number of fighter wings are being considered?

General **Jaquish**. Sir, I would like to answer that.

I think as you currently know, 2 years ago, we were funding a 38 tactical fighter wing force. The 1991 President's budget is for a 36 tactical fighter wing force, and we are now looking at a range of options, ranging from 30 tactical fighter wings on up, in that area. We are trying to balance the requirements and the age of our airplanes, as well as balance the distribution of those airplanes across the mission areas.

But we will not determine that until we finish this POM cycle and deliver to you in January 1991 the 1992 budget.

Senator **Inouye**. It has been suggested that the ATF was designed for central Europe, and now that we are told that the threat has diminished; is this the right aircraft for the Third World or other contingencies?

General **Jaquish**. Absolutely, sir.

As a part of the major aircraft review, there was a relook at the threat, not only the European threat, but the worldwide threat. Both DIA and CIA were a part of that review. They came to a consensus in that regard.

When they looked at what the requirements were going to be, not only in the European theater as remodeled based on current events, but also in other theaters around the world, to include, specifically, the capabilities of Third World nations, it was determined that absolutely we needed an ATF.

Senator **Inouye**. In the report, the Secretary implied that the F-15C and F-15D can operate beyond the year 2000. Does that mean that the ATF procurement may be further delayed?

General **Jaquish**. No, sir.

I think what the Secretary was referring to is with regard to the F-15 versus the current fielded threat, the Mig-27's and Mig-29's, the F-15 and F-16 force is currently at about parity.

I think the Secretary made the point that in order to have any military operations, be it on sea, on land, or in the air, you must have air superiority. And, while those airplanes will not retire until after the turn of the century, we still need the ATF. And at the 2-year slip, Senator, we will not have any appreciable combat capability in the ATF until about the year 2002 or 2003.

So that is how long the problem is in front of us. It does coincide with the drawdown in age of the F-15 fleet.

Senator **Inouye**. How far can you extend the life of the F-15C and F-15D?

General **Jaquish**. The original life of the C and D was for 4,000 hours. We did studies to ascertain the potential for taking it out to about 8,000 hours. Those studies seem to indicate at the current usage rates that that is the absolute outer limit of the age of that airplane.

So we feel, right now, that it is somewhere in the 6- to 8-year ballpark, in terms of the life of that airplane. The build on the ATF is right in the heart of that 6- to 8-year point.

NAVY ATF

Senator **Inouye**. Admiral, the Secretary also suggested that the F-14D's can be increased by about one-third. Are you prepared to do that?

Admiral **Dunleavy**. That, again, is under consideration as we construct our POM, which will become the budget at the end of this year.

What the Secretary is referring to is the possible slippage of the Navy ATF. Beyond that, we will have to relook at how we are going to procure F-14D's, either remanufactured or new. Again, there are many, many factors being considered at the present time inside the Department of Navy of how we are going to make the F-14D last until it is replaced by the Navy ATF, in view of the major aircraft review.

But it has considered the age of the aircraft. The general was talking about the aging of the F-15. The F-14 was originally built for 6,000 hours. We looked at how we can make it last longer.

I forgot to mention that Adm. Richard Gentz, the Commander of the Naval Air Systems Command, is right behind me. His unit has now tested with Grumman, and the aging of the aircraft can possibly last now through 7,500 hours. We are in the process of evaluating whether or not we can go beyond 7,500 hours through fatigue testing.

So all of those factors have to be brought to bear on a decision of how we are going to make the fighter of the present last until the fighter of the future arrives.

Senator **Inouye**. Are you reexamining the F-14D program to determine whether you need any more?

Admiral **Dunleavy**. Oh, I think we are universally supportive of the F-14D. We need it to replace the F-14A and the A-plus, in order to give the fellows in the fleet the capability to do the job we expect them to do, and that is to shoot down enemy aircraft and also to do some air-to-mud work for us.

So there has been no lessening at all in the intent for the F-14D. We need it.

Senator **Inouye**. Are you also considering the possibility that the Tomcat 2000 may be a replacement of your Navy ATF?

Admiral **Dunleavy**. I think we are looking at many, many different options. The Tomcat 21 is being looked at as a possible replacement for the F-14D, as with the Navy ATF. You may be referring to the Hornet 2000, the Mac Air aircraft. The Hornet 2000 is a possible replacement.

We are evaluating all kinds of different aircraft to replace the F-14D at the present time. Again, because of the guidance we are receiving, we are reevaluating the entire spectrum.

Right now, the F-14D is the aircraft we want until the Navy ATF or whatever comes up to follow it.

MARINE HARRIER

Senator **Inouye**. The President's budget does not include any funding for advance procurement of the Harrier, the Marine Harrier. Does that mean that after the fiscal year 1991 procurement, we are going to terminate this program?

General **Pitman**. Yes, sir; that's a possibility. In the programming process, as we look to 1992 and beyond, it may become unaffordable within our portion of the budget. That will leave us with 276 aircraft, which will support our full force level of eight squadrons, plus training and pipeline. But it will only carry us out into about 1995. Then attrition will bring us below our requirement and we will have to develop an alternative.

Senator **Inouye**. With that possibility, do you still want the radar version of the Harrier?

General **Pitman**. Yes, sir.

The radar program is a stand-alone program. We constructed it that way in case we were unable to fund further procurement.

The main purpose of the radar program is to give us an increased capability at night. We do not have a night targeting system on the aircraft and with the current visual angle rate bombing system for ranging, we don't get as accurate a delivery as we would with the radar.

So we are looking at the radar and the possibility of retrofit. But retrofitting would be very expensive, so we don't think we are going to be able to afford such a program at this time.

The Spanish and the Italians, as you know, are very interested in buying the AV-8B, but they need a radar for their mission. They would optimize their radar for air to air, while ours would be primarily to enhance our air-to-ground operations.

FIXED WING AIRCRAFT FOR THE RESERVES

Senator **Inouye**. Do you have any plans to modernize your fixed wing aircraft for the Reserves?

General **Pitman**. Yes, sir; the Reserves will transition to the F/A-18. Both the A-4's that we currently have and our F-4's will transition over the next 4 to 5 years into F/A-18's.

Senator **Inouye**. Has this program been approved?

General **Pitman**. Yes, sir; as the follow-on F/A-18's come aboard, we will have F/A-18A's ready for the Reserves.

Senator **Inouye**. I have many other questions, but I notice that my colleagues are here.

Senator D'Amato.

Senator **D'Amato**. Thank you, Mr. Chairman.

F-14

Admiral, last year I raised a concern about the likelihood of a slip in the schedule of the naval advanced tactical fighter and resultant shortfalls. It was indicated that they would be made up by stretching the service life of the F-14. As you have indicated, studies are underway. But that testimony indicated that the Navy hoped to stretch the service life from 6,000 hours to 9,000 hours.

At that time I asked what studies had been done on the cost and feasibility of the stretchout for the F-14's to 9,000 hours and no answer was given. None was submitted for the record in terms of followup.

So I ask you again: What data do we have on the cost and feasibility of stretching the service life of the F-14 to 9,000 hours, bearing in mind that I've been told that the Navy only has data to date up to 7,350 hours.

Why don't you answer that?

Admiral **Dunleavy**. Yes, sir, Senator.

What you say is accurate. A year ago, when I first arrived here, we were looking at how to make the F-14D last longer than the program plan of 6,000 hours.

To date, working with Grumman and the Naval Air Systems Command, we have proven that the aircraft can now last at least to 7,350, so I believe the figure that you use is correct.

Whether or not we have the money to invest further to make the aircraft last and test it out, its fatigue life, up to 8,000, which I understand now is a more feasible goal, vice the 9,000, is a decision we have to make inside the Navy within the near future.

Again, we are reevaluating that. We are looking at it hard, whether or not we can spend the money to test the aircraft up through the 8,000 or 9,000 hours.

Senator **D'Amato**. Well, if you don't spend the money, it would seem to me that we are embarking on a much more costly exercise; and that is whether or not we then go into development of an NATF or whether or not we continue to manufacture the F-14's.

How can we prudently provide for the future in terms of meeting the needs of the fleet in the future, when the data that we were told last year were vital to balancing the risk of terminating new F-14 production have not even been collected?

When you come and say—and I don't mean you in particular—but if you take the position that we can meet our future needs by the remanufacture, et cetera, that they have a life of 9,000, and we have not even tested to see if we can get up to 8,000, and now the figure is varying, I would suggest that what happens, as we hit various budget targets, is we just changed the requirement, without their being the factual data to prove that out.

Now, are you saying to this committee at this time that the Navy hasn't even made a determination to see if they can get more than 7,350 hours service life out of the F-14?

Admiral **Dunleavy**. Senator, the requirement hasn't changed. Please don't get me wrong. The requirement is we have to have an aircraft to last until the Navy ATF arrives, or whatever. The F-14 is that aircraft.

COSTS OF TESTING F-14'S

Again, it comes down to what can we afford inside the Navy to figure out how to make things last. In our priorities, we sat down and we tried to work out the programs where we can best spend our money in order to make whatever aircraft we are talking about last into the future.

Money was put into the program to complete the test up through the 7,500 hours. We are still going through a battle inside the Navy on the investment to test the aircraft with the Grumman experts up in Long Island, whether or not it can last in the fleet, through fleet use, up through the 8,000 hours.

It is a hard question. We are trying to answer it. We are trying to get our hands around it, and whether or not we can spend the money, have the money to spend—again, it is an austere fiscal climate.

Senator D'AMATO. How much money does it cost to stretch out the lifetime of the F-14 from 7,300 to 8,000? And will 8,000 then meet your needs? Are you saying now that 8,000 hours is sufficient?

What does that mean?

Admiral DUNLEAVY. I may be misleading you, Senator.

It's not that 8,000 is sufficient. It's that some of our technical experts say that maybe 9,000 is not attainable, maybe you have to be satisfied with 8,000 hours.

I cannot tell you about the cost of testing that. I will have to come back to you, when we figure out what is the actual cost to complete those tests.

I know that it is very expensive. But how much it is, I don't know.

Senator D'AMATO. So you will give us that information?

Admiral GENTZ. We are waiting for a proposal. We don't have a proposal yet from Grumman.

SHORTFALL IN F-14

Senator D'AMATO. You know, we ask these questions as against a 3-year slip, giving us a shortfall of something in the area of 53 percent. We were told there weren't going to be any slips, that we were on, and we are already up to 2 years. This is exactly what I think some of the members of the committee suggested was going to take place, because it has been the history of programs, not to mention compounding it with the budget problems that are taking place.

So I think it is important that we ascertain this. I have to be quite candid with you. When I hear the Secretary of Defense blasting away at the program, at the F-14's, and then I hear the people on the front line saying it's a great plane and we want to continue, I just would like to find out if it is a mindset that the Secretary has that flies in the face of what the facts are, as to what the needs legitimately are—not the needs that I conjure up, but what the needs really are.

I am sick and tired of being accused, those of us who raise these questions, that we do it for parochial interest. Obviously I am interested in seeing if a facility, such as Grumman, can and should be maintained. I would be less than candid if I were not.

But, you know, when we ask for the facts and we are just given assertions that we don't need it, that it is over the hill, and the kinds of statements that the Secretary has made, I have to tell you that they are rather disturbing. So we say show us. What is your plan, and is it necessary to have these F-14's produced and what is your plan to deal with the shortfall which is coming into fruition?

In an interview that appeared on March 26, 1990, Mr. Chairman—I'll share this—with Aviation Week and Space Technology, the admiral stated that the F-14D remanufacture program gives us some latitude to slip NATF up to 5 years. That is roughly the year 2005.

Even the Navy figures acknowledge that the F-14 retirement accelerates rapidly after the year 2000, as remanufacturing does not increase inventory.

I am at a loss to understand how it affords you the room to slip the NATF at the same time?

Senator **Inouye**. Senator, will you yield?

Senator **D'Amato**. Certainly.

Senator **Inouye**. Admiral Dunleavy, I gather that the Commander of the Naval Air Systems Command, Admiral Gentz, would like to respond.

Would you care to have him respond?

Admiral **Dunleavy**. Yes, sir.

Admiral Gentz: I am Vice Admiral Gentz, Naval Air Systems Command.

I cannot defuse totally your comments, Senator D'Amato. We are working with Grumman now to get a proposal to continue the tests beyond the current level.

We are also doing some other things with aircraft in monitoring service life, to limit damage, and to better understand fatigue life. Our current way of determining damage as aircraft operate is somewhat less than we would like to have it.

We have several ways that we may be confident in expanding the service life of those F-14's. However, because we bought many F-14's much earlier, you are absolutely right that, beyond the year 2000, those early aircraft will be quite old.

Admiral **Dunleavy**. Senator D'Amato, you will never hear a fleet sailor or a requirements fellow saying the F-14D is not a requirement or that it is over the hill. It is a very, very hard requirement. We need it. We have to make it last until the follow-on aircraft arrives.

Senator **D'Amato**. Well, if Cheney hears you saying that, you may be in deep trouble.

Admiral **Dunleavy**. Yes, sir.

But he's on board. I've never heard him speak out against the F-14D. He knows it's a hard requirement. He believes in it just like everybody else does. It's just that with this fiscal climate, it's a question of how far are we going to go with the budget that we have, and what do we really need and how does the force structure line up with that.

COST OF NATF

Senator **D'Amato**. Well, I have to tell you something.

We are talking about budget constraints, and we are saying that the F-14 is a costly plane. What do you think the cost for the NATF is going to be?

Is it going to come out at $100 million a copy by the time it comes out? I mean, I don't understand it, to be quite candid with you. I think what we have is a mind set that Cheney represents, and I can tell you, because I've seen it, I've heard him, and I'll show you and I'll put into the record—and I hope the chairman will give me an opportunity to do that—some of the kinds of statements which are inflammatory.

Now, maybe there have been some of the congressional delegation who have used what he considers to be excessive lobbying and fighting to keep the line alive. But, you know, in the face of the fact that you cannot demonstrate, the Navy and others, that they are going to be able to meet the shortfall, even with the fleet being cut back, I wonder why it is considered to be unreasonable for those in the Congress to then say shouldn't we continue the manufacture and wouldn't that give us the greatest bang for the dollar. If it doesn't, then fine, let's drop it. Let's close it. I'll be the first to tell you, if you're not doing what's best, as it relates to getting the best value for the dollar, then I would advocate closing it.

But I have not heard one of the brass from the Navy say that that is the case. But I have heard it come from the political side of the Defense Department. And yet, we are supposed to sit here and take it, and those in the Congress who stand up and say we should continue this line are vilified. I think it is wrong.

Thank you, Mr. Chairman.

Senator **INOUYE**. No; I don't think you are being vilified, sir.

You are making a lot of points with your constituents. Don't worry about it. [Laughter.]

Senator **D'AMATO**. Thank you. [Laughter.]

Senator **INOUYE**. Senator Harkin.

Senator **HARKIN**. Thank you, Mr. Chairman.

NAVY PILOT RETENTION, READINESS, AND FLIGHT TIME

There are two subjects that I want to discuss. One has to do with pilot retention, readiness, and flight time.

Vice Admiral Dunleavy, you said that the budget request is sufficient to achieve about an 85-percent level for reaching the primary mission of readiness.

Is that sufficient? You say your peacetime goal is 88 percent. Just tell me, in plain English, are you getting enough money for pilot proficiency, in flight time?

Admiral **DUNLEAVY**. Again, you're asking the wrong guy. I'll never be satisfied with how much flying time I get. Every young fellow in the fleet wants to fly as much as is humanly possible. The average fellow in the fleet—I'm talking about a carrier tail hooker—he doesn't fly 40 hours a month. Again, with fiscal realities, we figure out how much we can afford and how much we feel we can get him up to, say, 85 percent primary mission of readiness [PMR]. Then we are satisfied. Well, we're not satisfied, but we have to come up with 25 hours per pilot per month. When you spread that across the entire spectrum of naval aviation, the fellows flying the P-3, the long-range antisubmarine warfare aircraft, is probably flying, because of the nature of his mission, about 42 hours a month; while the young fellow who is flying the F/A-18, because of the nature of his mission, is flying probably 18 to 20 hours a month. That is not right in my mind.

We are trying to gradually drive it up to where the young fellow, when he is deployed, he is getting plenty of flying time. The average fellow in the air wing is probably getting 30, 35, maybe 40 hours a month during his deployment. But when he comes home, during his turn-around cycle, for a couple of months he won't fly at all. He will gradually increase his flying 12 hours, 15 hours, and will gradually build up until he is ready to deploy again.

That is where the imbalance comes in. That's very difficult to manage. Our type commanders, for both AirPac and AirLant, work on that on a daily basis with us to figure out what is the best possible way to make sure we keep that young fellow ready to go to sea.

So, to answer your question, I want more flying hours for our fellows. We need them. But 25 hours is probably a prudent, bottom, minimum line that we can say we can fund.

AIR FORCE PILOT RETENTION, READINESS, AND FLIGHT TIME

Senator **Harkin**. How about the Air Force?

General **Jaquish**. Sir, we are adequately funded at this time. I think, as you may know, since 1978 and 1979, the tactical forces of the Air Force have flown out 100 percent of the flying time available to them.

Currently, the way we program our flying time, a fighter pilot will essentially fly once a day every day that he is present for duty. Now, you know, if you take away the leave, the sick time, and the occasional other duties, what that will average out to is in the vicinity of 13, 15, or 16 times a month. That will vary from month to month.

But I would agree with your thrust in the sense that pilot retention is directly tied to pilot readiness and pilot training and that sort of thing. The more they fly, the more they want to stay and fly.

MARINE CORPS PILOT RETENTION, READINESS, AND FLYING TIME

Senator **Harkin**. How about the Marines, General?

General **Pitman**. Yes, sir; we have the same kind of program as the Navy. Our pilots average about 22 hours a month per pilot. I have the same response. We certainly would like to fly more. However, we have looked at it from a training standpoint, and we are able to keep our pilots at a reasonable readiness rate with the 22 hours per month.

Senator **Harkin**. Do you still have a problem in the services where, at the end of the quarter, you try to get everybody out there to fly as much as possible to use up that money at the end of the quarter? Or do you have it spaced out pretty well now to where you don't have those kinds of things happening?

Admiral **Dunleavy**. Senator, those days were years ago. We don't launch anybody just to burn up gas and maximize flight time. That's 10 or 15 years ago, older than that. Right now, it is tightly, tightly controlled from the squadron CO, all the way up through the air wing commander, to the type commander, to our fellows in the Pentagon, exactly how much it is. Years ago, we used to dump fuel. Ever since the crisis back in the early 1970's, fuel has been very, very tightly managed.

When I first joined the Navy, fuel was like 10 cents a gallon for JP. Now it is a dollar-something. So we are concerned about that.

You mentioned retention. Our goal for jet pilots is about 42 percent. Now, through the efforts of yourselves over here, with the bonuses, we are approaching 35 percent, and the swing is upward in retaining more jet pilots.

General JAQUISH. Sir, I would like to comment in that regard.

Senator HARKIN. Yes, please.

General JAQUISH. As I mentioned before, the Air Force in the tactical units have flown out 100 percent of their flying time every year since the late 1970's. What we do is each unit plans out their flying for the year in advance, in terms of how they are going to load up on any particular month. They just don't straight-line it.

You may have a deployment to Europe, for example, where you are going to consume more flying time in a particular month. So the unit plans that out on an annual plan and then they are tracked to that annual plan. And, as a matter of fact, typically, in the tactical units we stand down the last week of September because we have flown out 100 percent of our flying time.

So we are not out there, as the Admiral pointed out, as perhaps we were in days past, just flying to get the flying time. These are hard training sorties.

Senator HARKIN. Well, I don't know. It's just been my observation over the years that there are some people who just want to fly, and they are good at it.

Admiral DUNLEAVY. Oh, don't get me wrong. We all want to fly.

Senator HARKIN. What I'm saying is they are good at it and they want to fly. But then they get burdened with all kinds of collateral duties, and taking care of a squadron and this and that, and the paper work. Then they say the heck with it all, I can go out there and apply to the airlines, and I'll get in the cockpit and fly, but when I get back, somebody else will take care of all that paperwork.

Admiral DUNLEAVY. That hasn't changed. Every one of us still today, no matter how senior you get or how junior you are, the paperwork is still the cross we have to bear.

Senator HARKIN. They still have that idea that every officer could be CNO, right? Well, I'm not certain about that. I know a lot of people—specifically in the Navy—who are darn good pilots and want to fly. But they have no desire to become CNO. They just want to fly airplanes. And they were good at it, but they got out because they got burdened with so many collateral duties, and the pay was not all that good.

But some of that stuff has been taken care of. But I have the feeling there is still this idea that pilots have to be more than just pilots. They have to be managers. I just wonder if we are not missing some things by doing that.

Admiral DUNLEAVY. Well, again, because of the constraints we have on the size of our squadrons, tail hook squadrons specifically, we don't have the luxury of just having ground officers doing the work of the fellows flying the aircraft. They have to do both.

None of us joined the Navy to become CNO. Most of us joined the Navy to fly. I mean, we love it. But part of the program is becoming a damn good aviator and a damn good naval officer leader—not manager—and those are the tricks of the trade the kid picks up by having all of these collateral duties.

Again, it will never change.

Senator HARKIN. It's an age-old problem.

HEAVY-LIFT HELICOPTERS

The last thing I wanted to ask about was specific to the Marine Corps and the Navy. It concerns the requirement for heavy-lift helicopters.

You mentioned, General Pitman, that you have a request in for 23 heavy lifts in 1991. If we assume that all these 23 are appropriated, how many will you need in future years?

General PITMAN. We'll still need 56 more, sir.

Senator HARKIN. You'll need 56 more?

General PITMAN. Yes, sir.

Senator HARKIN. That's to reach your goal of what, 191?

General PITMAN. Yes, sir; 191.

Senator HARKIN. The CH-53E and the MH-53E were previously purchased under a multiyear procurement contract that I understand saved the Government almost $100 million. I don't know that for a fact, but that is my understanding.

General PITMAN. That's correct, sir.

Senator HARKIN. How much money could we save by a multiyear contract for the remaining 53E helicopters beginning in fiscal year 1992? If you don't have that off the top of your head, if you could get that to me, I would appreciate it.

General PITMAN. Historically we save about 12 percent with multiyear procurement. That is what we saved on the previous H-53 contract. You can save a little more, depending on how long the program runs and how firm the contract is. But the minimum we would hope to save is about 12 percent.

Senator HARKIN. For a multiyear contract?

General PITMAN. Yes, sir.

PRODUCTION OF 53E'S

Senator HARKIN. In addition to the Marine requirement for the 191 CH-53E's, I understand the Navy has unfilled requirements for the MH-53E's for mine-sweeping operations.

Given our need to cut military spending, there will be pressures to cut back on helicopter production. What is the minimum production of 53E's that you could live with for fiscal year 1991?

Do you have any idea of what the minimum might be? Again, if you don't have that and can just get it to me, I would appreciate it.

Admiral DUNLEAVY. Sir, we have a requirement of 48. We currently have 31 on board.

Senator HARKIN. A 48 requirement and you have 31 right now.

Admiral DUNLEAVY. Yes, sir.

Senator HARKIN. So, again, do you have any idea what the minimum production would be that you could live with next year?

Admiral DUNLEAVY. I will have to come back to you on that minimum; yes, sir.

Senator HARKIN. All right; thank you.

[The information follows:]

There are three terms that apply to production rates: (1) minimum sustaining rate; (2) minimum economic rate; and (3) maximum economic rate.

A minimum sustaining rate is based on the smallest number of aircraft necessary to maintain the production line while maintaining unit cost at reasonably affordable level. In the case of the CH/MH-53E, the minimum sustaining rate is eight helicopters per year.

The minimum economic rate is production based on an economy of scale that allows for unit costs lower than the minimum sustaining rate. The minimum economic rate for CH/MH-53E's is 14 helicopters per year.

The maximum economic rate is based on the production capacity of the manufacturer's assembly line. Without making excessive changes or modifications to that line, this rate provides the lowest possible unit cost based on economy of scale. As the production capacity exists now, 24 helicopters per year would be the maximum rate.

General Pitman: Sir, I might note that they are producing 14 a year now.

Senator HARKIN. That's 14 a year?

General PITMAN. Yes, sir.

Senator HARKIN. Is that a good rate? Is that an economical rate?

General PITMAN. That is probably the minimum economic rate.

Senator HARKIN. The minimum economic rate?

General PITMAN. Yes, sir; I would hate to speak for the Naval Air Systems Command, but that, generally, is what we used as a minimum.

Admiral GENTZ. What we would like to do, obviously, in any of these buys is keep a level buy in a continuous program. That is the most efficient way, both for us to manage and for the contractor to build.

We can get the specific number to you, but that is what we would like to do.

Senator HARKIN. I appreciate that.

I am interested in this area because I feel that the needs that we are looking at in the 1990's are going to require the kind of mobility and heavy-lift capabilities helicopters will provide for insertion of troops in various hot spots around the globe. Sometimes people don't focus on these kinds of items and they tend to get pushed back. I think, if anything, these are the types of equipment we are going to need for some of these trouble spots that might potentially break out in the 1990's.

I am concerned about whether or not we are keeping up the production at an economical rate.

So, if you could, get that number to me on the minimum production that you might need for 1991. I would appreciate that.

Admiral DUNLEAVY. Yes, sir; we'll do that.

[The information follows:]

The minimum economic production rate for CH/MH-53E helicopters is 14 per year.

Senator HARKIN. Thank you all very much.

Thank you, Mr. Chairman.

Senator INOUYE. Thank you.

Senator McClure.

Senator McCLURE. Mr. Chairman, I have only a couple of questions. I will submit the balance in writing for response for the record.

AIR SPACE

Admiral, I note on page 22 of your statement that you talk about the restrictions on available air space for training purposes. You indicate that that is a matter of some concern to you as you have more aircraft with greater capabilities and more kinds of weapons with different demands upon training, that the available area usage is a constraint upon your capacity to train and operate; is that correct?

Admiral **Dunleavy**. Yes, sir.

Senator **McClure**. I take this time only to suggest to you that you be a lot more careful about the kinds of legislation the Congress is developing that restricts your air space. Last year, we had more than one piece of legislation that constrained military operating capability over some of the public lands in the United States, and the Department was not even prepared to make any response at all to the questions that were asked about the operating capability.

In one instance, we almost had to invite the Navy to come forward and say, "Hey, what you are doing is going to hurt us," and that was almost after the fact before that came forward. I would invite you to be more conscious of the legislative agenda on the Hill that would impinge upon that capacity.

Admiral **Dunleavy**. Yes, sir; I got the message.

Senator **McClure**. Thank you.

I will submit the balance of my questions in writing.

Thank you, Mr. Chairman.

Senator **Inouye**. Thank you.

Senator Bumpers.

Senator **Bumpers**. Thank you, Mr. Chairman.

2.75-INCH ROCKETS

General Pitman, tell me about the shortage of 200,000 2.75-inch rockets. Why do you have that big a shortage?

I know there are some troubles in that program. But I think the problems are with the Army, are they not?

General **Pitman**. Yes, sir; there are some problems in that area, but most of it is a funding problem.

We, in the Department of the Navy made a conscious decision some years back to neck-down, as it were, from the 5-inch ZUNI and 2.75-inch rocket and develop the advance rocket. This rocket will give us both the 5-inch and the 2.75-inch capability in one weapon and will also include Hydra 70 capabilities. Then, we would only have one type of rocket and launcher to use which makes a lot of sense logistically and fiscally.

The problem is, as normally occurs in a declining budget situation, the arrival of the advance rocket has slid beyond what we originally envisioned.

As a result, we are coming up short of rockets, having previously cut back on procurement, anticipating the introduction of the new rocket family. We did the same thing in the bomb family, while waiting for the advance bomb to be developed.

We currently will have, when we finish the current buy, 76 percent of our wartime requirement for rockets. The problem is that does not allow for any training.

We require in excess of 90,000 rockets a year for training of all the air crews. Due to shortages, we actually allocate less than one-half that number. Even that cuts back on our stockpile each year at a sizeable rate.

Senator BUMPERS. In your statement, you said that you had this 200,000-rocket shortage and that did not include rockets for training. And you say you used 90,000 of them a year?

General PITMAN. Yes, sir; that's correct—93,500 2.75-inch rockets are required each year, but due to the shortages, we have actually only been allocated 20,000 to 40,000 a year.

Senator BUMPERS. Are you then now telling me that that is not a problem?

General PITMAN. Oh, it is a problem, sir.

Senator BUMPERS. It is a problem?

General PITMAN. Yes, sir.

Senator BUMPERS. Well, the Radford Arsenal in Virginia had a fire, didn't they, and they are the people who furnish the grain for this rocket. Isn't that one of the problems?

General PITMAN. That's one of them; yes, sir. Indian Head also provides these rockets and Radford is back in production.

Senator BUMPERS. Indian Head provides the same thing. But, apparently, they are not able to supply enough to meet the demand of the manufacturing schedule, are they?

General PITMAN. Yes, sir; I believe they are. They are not operating at full capacity. It is a matter of funding, as I understand it. I've been down to Indian Head and looked at their facilities.

FUNDING OF 2.75 ROCKETS

Senator BUMPERS. Have you asked for money in your budget to take care of the problem?

General PITMAN. Well, within our own house; yes, sir. But, again, it is a matter of priorities. We have many things that we need. Looking at the overall inventory of rockets and the level of risk that we are experiencing it leaves us to fund our 2.75 rocket procurement at really one-half of our annual training rate. We are funded for 46,700 rockets. We would normally require 93,500 a year. So, again, we are in a position of cutting back on required training or biting into our overall inventory.

Senator BUMPERS. Well, I don't want to force anything on you. I just want you to tell me that if this is not a problem, so I won't worry about it anymore.

General PITMAN. But it is a problem, we just don't have sufficient funds to afford additional procurement.

Senator BUMPERS. Well, you also have a problem with a bankrupt firm in Florida that provided the igniter for this rocket, do you not?

Are you familiar with that?

General PITMAN. No, sir; I'm not.

We did have some problems with it, but I couldn't tell you the specifics of it.

Senator BUMPERS. Well, the Army is going to have to qualify a new manufacturer to make those things. As you know, that sometimes takes time.

General PITMAN. Yes, sir.

Senator **Bumpers**. I didn't know whether I should try to address this when we go to markup on this bill or express the committee's concern about it. I wanted to know what your concerns were.

General **Pitman**. Again, we have drawn back in many ordnance areas pretty much across the board. This forces a reduction in our annual training usage which, again, reduces the overall readiness of our air crews.

Senator **Bumpers**. What about the other rocket that you say is going to be a sort of follow-on to this—I take it it is a follow-on?

A-16

General **Pitman**. Yes, sir; it is an advanced rocket which will be very similar to our current one. It will be a 2.75 rocket, but will do both the job of the current 2.75 and 5-inch rocket. It will have greater penetration, greater speed.

Senator **Bumpers**. OK.

General Jaquish—is that the correct pronunciation?

General **Jaquish**. Yes sir.

Senator **Bumpers**. General Jaquish, I take it that you are looking for a follow-on to the F-16 and that is going to be the A-16; is that correct?

General **Jaquish**. The A-16 will be a specialized F-16 for close air support and battlefield air interdiction. It will be just a natural extension of the current F-16 line; yes, sir.

Senator **Bumpers**. And you want 300 new close air support aircraft, is that correct?

General **Jaquish**. Yes, sir.

Senator **Bumpers**. Along the line of the A-16?

General **Jaquish**. Yes, sir.

We have done a great series of studies, and out of that study the Air Force has become convinced that modification to the A-16 to focus on that mission area is the way to go. We anticipate that we will have a DAB in the Department to make that decision in the July timeframe.

Senator **Bumpers**. In July?

General **Jaquish**. Yes, sir.

ADVANCED TACTICAL AIRCRAFT

Senator **Bumpers**. Now, as I understand it, the Air Force has stated that they have a need for 400 of the advanced tactical aircraft; is that correct?

General **Jaquish**. That's correct, sir.

Senator **Bumpers**. Now, that is a deep interdiction aircraft, is it not?

General **Jaquish**. Yes, sir.

Senator **Bumpers**. And when you consider that and the A-16, that is a total of 700 airplanes. But I am especially concerned about the so-called deep interdiction. It's not that I'm opposed to it or for it. I'm just trying to figure this out.

Has the Air Force done a reassessment of the necessity of that airplane and particularly in that number, in light of the reduced Soviet threat?

General **JAQUISH**. In the case of the ATA, that's exactly correct, sir.

We have currently four wings dedicated to the deep interdiction role. Two of those wings are F-111's, and two of those wings are F-15E's.

As a part of the major aircraft review, as we were speaking earlier, the Secretary chose to delay the Air Force ATA program to 1998 procurement. At that point, we would start a buy of 400 ATA's to replace first the F-111's, which will be aging out not too long after that, and then, finally, the F-15E's, with the intent of having and retaining four wings of dedicated airplanes for interdiction.

Senator **BUMPERS**. When are you shooting for deployment or the operational capability of the ATA? Is it past the turn of the century?

General **JAQUISH**. The first production money the Air Force will have on the ATA will be 1998, with first deliveries in the year 2000. So, we won't have any ATA's in any quantity till the 2003 or 2004 timeframe. That would be our first squadron's worth of airplanes.

The build rate on those airplanes is 6 airplanes, then 8 airplanes, then 12 airplanes, then 24 airplanes. So it takes a good number of years to get up to rate on those planes.

Senator **BUMPERS**. We still don't have any estimate of what the cost of that airplane will be, do we?

General **JAQUISH**. The Air Force estimate is that airplane will be probably within $1 million or $2 million of the Navy variant. There are very few modifications that the Air Force is doing to the Navy A-12 to make it acceptable to the Air Force. There are such things as putting an Air Force refueling receptacle on it. You know, our tankers are configured in a different way.

So there are very minimal modifications to the Navy A-12, and we anticipate that there will be in the vicinity of $1 million or $2 million per airplane difference.

AMRAAM

Senator **BUMPERS**. General, you speak almost glowingly of AMRAAM in your testimony, and the Air Force has refused delivery on it. I read stories where the cost is up 75 percent on the AMRAAM just this past year alone, and that, so far, it hasn't been able to hit a bull in the rear with a base fiddle.

So I am curious as to why you are so high on it.

General **JAQUISH**. Well, sir, the facts of the matter are that the AMRAAM is the most successful air-to-air missile that we have ever had. At this point in time, of all the missile shots that we have taken with AMRAAM—and they are in excess of 100 missile shots—we are averaging a 77-percent success rate.

This past Friday, we shot what has been known as the four versus four shot, in which a single F-15 would find and break out on his radar four different targets and launch four AMRAAM's at those four different targets. The results of that shot were just unprecedented in the sense that all four of those missiles killed those targets.

So we had absolutely a perfect shot of a single shooter taking on four airplanes in a very complex scenario, with electronic countermeasures jamming, self-screening jamming, standoff jamming, and chaff. It was just an incredible performance.

Senator **Bumpers**. What do you want it to do before you start accepting delivery of it that it is not now doing?

General **Jaquish**. We stopped accepting missiles, Senator, in February, as a result of some reliability failures we were having in AMRAAM. We have put a team of experts on to look at those failures. We have concluded that those failures were only related to quality control and process failures associated with moving from full-scale development to production; that the design of AMRAAM is solid and that there is adequate design margin.

We asked the contractors, as a result of these failures, though, to come forward with a corrective action plan. We now have those plans. We are reviewing those plans. And when those plans are reviewed and we see some implementation of those things in the production line, we will move forward and start accepting missiles again.

COST OF AMRAAM

Senator **Bumpers**. According to a story in, I had Aviation Week here but I guess I saw it someplace else, on the costs—I mentioned a moment ago that the cost had gone up 75 percent, from $419,000 to $732,000 in 1 year.

My question is, What year dollars are those? Are those 1991 dollars?

General **Jaquish**. I will have to get you the exact figures. But the cost growth was in then-year dollars, and that was the breach that we had. The cost cap had previously been $7.7 billion for production for 24,000 missiles; and that cost cap was breached to $9.3 billion.

That is in base-year 1984 dollars. I will get you the exact figures with regard to unit costs in this regard.

[The information follows:]

AMRAAM

At the time the Air Force submitted the fiscal year 1990/1991 biennial budget in January 1989, combined Air Force and Navy planned missile quantities for fiscal year 1990 and fiscal year 1991 were 1,600 and 3,000, respectively, with a unit cost in fiscal year 1991 of $435,000. Congress reduced the fiscal year 1990 quantity to 900 and ramp-up capability restricted the fiscal year 1991 quantity to 1,800. These quantity changes and other estimating changes resulted in a unit cost in fiscal year 1991 of $744,000. All costs are in fiscal year 1991 dollars.

Senator Bumpers: Well, I have just located the article. It was in the Washington Post on February 13. It said that the Pentagon has asked Congress to buy the Air Force 1,250 missiles at a cost of $915 million. The Navy, which also plans to equip its fighters with AMRAAM, has requested 550 missiles, at $426.6 million. The price tag for the program has already ballooned more than 22 percent above the maximum then-Defense Secretary Caspar Weinberger assured Congress the weapon would cost.

Well, I won't pursue that, General, but I can tell you and I know you know this, that Congress will be watching very carefully the performance of these tests to make sure that we don't embark on a procurement program of a missile that isn't going to work.

General **Jaquish**. Let me assure you, Senator, that the Air Force has held AMRAAM on our own at low-rate production to resolve these reliability problems. We have no intention of asking to go forward until we are confident that the missile has solved its reliability problems. And with regard to the operational performance, as I commented earlier, I think the operational performance of AMRAAM is unparalleled and, in fact, will prove out to be probably the most successful Air Force missile program that we have ever had.

Senator **Bumpers**. Well, General, if it works as promised, I will be a strong supporter of it and will vote for certainly a reasonable amount of money. But I am worried about the sky-rocketing increases. Congress has already funded 4 years of production. But I can assure you that we will want to revisit that if we find that this thing is not going to perform.

SOVIET THREAT

Let me just ask you one other question, and this is not intended to be antagonistic, General. You know that those of us on this side of the table have one big disadvantage, and that is we have to worry about how much something is going to cost and where it fits into the deficit reduction and so on.

Most of us have been at least pretty excited about the reduced Soviet threat and the belief that perhaps our whole defense posture and the threat could be reanalyzed and that we could save some money as a result.

But in your statement on the first page, you say the Soviet Union remains the only power capable of threatening the existence of the United States. I agree with that.

"Soviet leaders talk about smaller armed forces, but they do not talk about weaker armed forces." And you say, "We expect the cuts they will make will be primarily from forces that are not combat ready."

Now, for the 15 years that I have been in the Senate, the whole Soviet threat has been based on bean counting, on numbers. We have always seen these comparisons, of their 55,000 tanks to our 20,000 tanks; their 60,000 armored personnel carriers, et cetera.

I was with General Akhromeyev last night, and he was sort of chortling. He said, "You know, if we didn't have any tanks, maybe we wouldn't be a threat. The Americans seem to be totally obsessed with our number of tanks."

In any event, I am troubled when you say that they may be smaller, but they may not be weaker. That is essentially a decision that we made in our defense posture years ago, that we would try to have quality manpower and quality weapons, and that we would be a lean and mean defense.

Now, you cannot expect the Soviet Union to destroy their best tanks and their best airplanes as they cut back. But they have kept their promise so far, I am told. Gorbachev has kept his promise; 200,000 men have already been cashiered. They are destroying tanks and they have cut their tank production back by one-half. And we are told yes, but that is still more than we produce.

They get no credit for that. And they are cutting back on their manpower. And now, all we hear is about the Third World threat. This is confusing to us.

We have asked Secretary Cheney—and Senator Nunn I don't think is going to be willing to go to markup until he gets this, based on what he has said publicly and privately—we need to know what the real threat is, from both the Third World and the Soviet Union. It is different; it is new. We are in a rapidly changing world, and we are trying to deal with the deficit.

If you picked up the paper this morning, you found that the President of the United States is now concerned about the deficit, to the point that he is willing to seal his lips for a little while.

I get the impression that, while he is not going to propose a tax increase, he might grudgingly accept one if Congress just imposed it on him.

You are looking at one Senator, incidentally, who is not going to do that. But I am troubled by our responsibility up here when we shift from one threat to another and I am concerned about whether we really need that many aircraft.

As I say, General, I have the utmost respect for you, for Admiral Dunleavy, for General Pitman, for all of you. We have the utmost respect for you. But we have a responsibility here to try to reassess a very dynamic and changing world as far as our defense needs are concerned.

A–6'S

Admiral Dunleavy, how many A–6's do you have on carriers right now?

Admiral **DUNLEAVY**. It depends on the wing that is embarked on the carrier. It's anywhere from 12 to 16.

Senator **BUMPERS**. How many do you normally have on each aircraft carrier?

Admiral **DUNLEAVY**. Sixteen.

Senator **BUMPERS**. Is that true of all 14 of them?

Admiral **DUNLEAVY**. No, sir; it goes from 12 to 16. We'd like to have 20.

Senator **BUMPERS**. Would you like to have 20 A–6's, which would make Senator D'Amato very happy, or would you like to have——

Admiral **DUNLEAVY**. Twenty A–6's, to be replaced by twenty A-12's. That's our ultimate goal.

Senator, I have to pick up on what you said. The capability is still the same for the Soviets. Their intentions we don't know. What this scrapping is, is really of mostly old stuff. I'll speak from the Navy point of view.

Senator **BUMPERS**. Of course it is.

Admiral **DUNLEAVY**. It is old, old stuff that has not gone to sea in years. It's been tied up at the piers.

Senator **BUMPERS**. But for 15 years, Admiral, the figures that we have been shown on 100 charts never said, "These tanks are obsolete" or "these submarines are so loud you can hear them when they leave Murmansk." You'd never hear that kind of stuff. It was always just bean counting.

Now that they are taking out those obsolete things, if you were President Gorbachev or if you were their Defense Minister, that is exactly what you would be doing. You'd be taking out the obsolete stuff, leaving the best and trying to upgrade what you have. There's nothing wrong with that.

Well, there may be something wrong with it. But I'm just simply that in the past, we never got information saying they were obsolete. It was always just 55,000 tanks.

Go ahead. I am anxious to hear your reply.

Admiral **Dunleavy**. It is just tough to compare an open society with a closed society. It is just tough to compare capabilities and intentions when we lump them together.

This is a personal opinion. Right now, our world is in a very, very dangerous situation. It is most unstable because we are going from bipolar to multipolar. Eastern Europe is like 1914 or 1920. We have all kinds of nationalism and fanaticism coming up. It is a very, very dangerous time, especially for us, who are looked upon by the rest of the world to be a stabilizing influence, to, without a very logical thought process decide what we want to do as a nation, to just believe everything we hear from the other side. I am still concerned about that, not only as a naval officer but as a private citizen.

Let's keep a good, cool head and take a look at it hard. What is he actually doing? Navy-wise, why is he building carriers when we are talking about coming down on them? I just have a hard time with that. Why is he developing aircraft to go on aircraft carriers when we are talking about coming down on them? There is a dichotomy there that is very, very confusing. I think in confusing times—which I personally believe these are—we have to really sit down and take a hard, hard look at how far we want to go and what do we want to believe.

We, as Americans, love to believe that there are great things that are happening, that peace is at hand. It's a great feeling. But we have to be very, very conservative, methodical, and logical about what are we really going to do. That's a personal opinion.

GENERAL AKHROMEYEV

Senator **Bumpers**. General Akhromeyev is testifying before the Armed Services Committee in the Senate today, and I am just going to make a guess that he is going to hammer very hard about our unwillingness to negotiate on naval power. He seems to be rather obsessed with that, quite frankly. When somebody said that our aircraft carriers were not a threat to him, he said, "What do you mean they are not a threat? You know, you have nuclear-tipped airplanes on every one of your aircraft carriers and you tell me they are not a threat to us?"

Let me tell you one other thing he said that I found to be very interesting. He said that he had believed all of his adult life that the United States was preparing war against the Soviet Union. He said Admiral Crowe had changed his thinking on that. I say that for whatever that is worth. But he still is the guy who has Gorbachev's ear, and if that is a true statement—well.

You know, we don't deal with the Soviet Union based on what their openly stated intentions are. We deal with what the threat is. We have enough intelligence to know what the threat is. But we have spent $2 trillion in the last 8 or 9 years preparing for a war on the plains of Europe that Secretary Cheney and everybody else now says is no longer a threat. And yet, everything we get up here seems to point toward the fact that we are having a very difficult time in the Defense Department changing our mentality on that subject.

F/A-18'S

Back to the F/A-18's, General. When are you going to get your first ones?

General Pitman. To replace our A-6's that we are turning over to the Navy?

Senator Bumpers. Yes. Incidentally, when are you going to finish giving the Navy your A-6's?

General Pitman. It will take 5 years, sir, to accomplish under our current plan. We have already transferred the first squadron's worth to the Navy, and we are standing up our first F/A-18D squadron now. By October 1990, we will have transitioned our first squadron. Their aircrews have been in our training squadron since last fall.

So we have, in fact, begun that process and the Navy is receiving our A-6 aircraft.

Admiral Dunleavy. Sir. 1994 is when we will complete it.

General Pitman. Yes; when we finish. It's 10 aircraft per year for 5 years.

Senator Bumpers. Does the Marine Corps have airplanes on every carrier?

General Pitman. No, sir; just on an occasional basis.

Senator Bumpers. How many?

General Pitman. Generally, two squadrons.

Senator Bumpers. Two squadrons?

General Pitman. Yes, sir; they may be on the same carrier or they might be on different carriers. We had two FA-18 squadrons on *Coral Sea* for a long time, and we had an A-6 squadron aboard *Ranger*, and on the *Kennedy* recently.

Senator Bumpers. How many F/A-18's do you think the Marine Corps is going to ultimately need?

General Pitman. Sir, we are planning for 12 single-seat squadrons in the active force.

Senator Bumpers. How many planes per squadron?

General Pitman. Twelve, sir, for a total of 144.

Senator Bumpers. That's single-seat A-18's? I mean F/A-18's?

General Pitman. Yes, sir—F/A-18C's. Then we would have six squadrons of 12, or 72 more F/A-18D two-seaters. These would replace our A-6 fleet.

Senator Bumpers. Does that fully cover all the A-6's you will have given the Navy?

General **Pitman**. Yes, sir; it does. It also covers the 21 RF-4B's and 27 OA-4M's that we are retiring.

Senator **Bumpers**. I find that to be a total of 216. Is that about right?

General **Pitman**. Yes, sir; that is our total active primary aircraft authorized requirement for single-seat F/A-18C's and two-seat F/A-18D's.

Senator **Bumpers**. Is that the single seater?

General **Pitman**. The single seater was a separate program that never had anything to do with transferring our A-6's to the Navy.

Senator **Bumpers**. You were already prepared to procure those?

General **Pitman**. Yes, sir; we had already procured those aircraft.

Senator **Bumpers**. How many of those do you have?

General **Pitman**. There are 144 single seaters.

Senator **Bumpers**. All right. So, the two seater is the one you are replacing the A-6 with?

General **Pitman**. Yes, sir; that's correct. It replaces the A-6's, RF-4B's, and OA-4M's.

Senator **Bumpers**. And that's six squadrons?

General **Pitman**. Yes.

Senator **Bumpers**. When do you hope to start getting those?

General **Pitman**. They began arriving last fall.

Senator **Bumpers**. Do you have some that you say you are training with now?

General **Pitman**. Yes, sir; we will complete the first squadron transition this fiscal year, and then an additional squadron per year through 1994.

Senator **Bumpers**. OK.

Mr. Chairman, I may want to submit a couple of questions in writing, but those, essentially, are my questions.

Thank you very much, gentlemen.

Senator **Inouye**. That's fine, and thank you.

Senator Stevens.

Senator **Stevens**. I just came in, Mr. Chairman. I would defer to Senator Specter.

Senator **Inouye**. Senator Specter.

Senator **Specter**. Thank you, Mr. Chairman.

JOINT OPERATIONS

I note that the Navy budget request for tactical aircraft procurement in fiscal year 1991 is $9.839 billion, and the Air Force has requested $6.403 billion for tactical air combat procurement.

Is there any way that what appears to be some duplication could be eliminated?

Admiral Dunleavy, do you want to make a response to that?

Admiral **Dunleavy**. We are constantly working together, the Air Force, Navy, and Marine Corps, in joint ops—and I will speak most recently from my east coast experience. We rely, ourselves, on different areas of expertise. To say "duplication," again, because of the areas that we operate in, possibly about the closest one you could talk about would be in close air support, where we support the Marines—"we", naval aviation—in amphibious assaults with close air support, while the Air Force supports the Army in their close air support.

But, other than that, our missions in tactical air and the way we employ aircraft are more supplementary than duplicative.

Senator SPECTER. Well, that's a hard response to evaluate.

On this subcommittee, as in so much of the congressional work on oversight, we ask generalized questions, without getting down into the nitty gritty. So it is hard to really figure that out.

As I look at it, it seems to me that it has a lot more by way of duplication than a purposeful separation, although I could be entirely wrong about that.

We are asking questions in 1990 which have never been asked before. This has been the most extraordinary year, perhaps, in history. I heard a colleague say not too long ago that if we were to start over again, we wouldn't create a separate Air Force. When I heard that comment, I then said well, would we create a separate Marine Corps? The comment was made that the Marine Corps evolved, and since there is nobody from the Army here today, maybe we'd say that we'd have a Marine Corps but not an Army.

But as I look through many, many lines, I read descriptions which appear to me to be about the same. It is hard for me not to think that there is a lot of duplication and that if we had one tactical air unit, that there necessarily would be some saving.

How about that, General Jaquish?

General JAQUISH. Well, I would comment that the Air Force and the Navy, I think as you know, are working hand-in-glove on the advanced tactical fighter and the ATA and the A-12 airplanes to force maximum commonality in those airplanes to save money.

Senator SPECTER. But why work hand-in-glove to force maximum commonality? Why not just have one hand working?

General JAQUISH. One service, you're saying?

Senator SPECTER. Yes; one service.

General JAQUISH. To project either air from all-carrier based air, or from land-based air?

Senator SPECTER. Precisely. The big difference is the aircraft. It's not where it starts from. It would appear to me that you would have a lot of savings if you just had one tactical air unit.

General JAQUISH. Well, I would only comment that I think when you look at the characteristics of land-based air and carrier air, each has certain qualities and they become complementary to each other. In terms of being able to rapidly respond to an immediate situation, you know, it takes time for a carrier to sail in there. But, on the other hand, once a carrier is in there, a carrier can operate from open waters and does not have to depend on land bases for its operation. So, in that sense, I see complementary forces.

The Air Force can deploy any fighter squadron it has today within 24 hours, 24 airplanes to any place in the world. That is a rapid reaction capability, and if land bases are available there, they have the capability to surge and sustain a very high sortie rate.

On the other hand, as I say, carriers have the flexibility to operate throughout the oceans.

I do not believe that that is an unbalanced force. As a matter of fact, it seems to me that it is quite well balanced, and the blend of the two are complementary to each other.

CANADA'S ONE UNIFORM SERVICE

Admiral **DUNLEAVY**. Senator, again, as the General says, it's a balanced force. If you look to our neighbor in the north, who went to a one uniform service, you can see the problems that were generated there.

Canada went to one overall service and is now coming back and saying, "Hey, we ought to have a separate Army, a separate Navy and a separate Air Force." So if you look to Canada for an example, you could have an argument there.

SIMILARITIES IN ARMY AND AIR FORCE TACTICAL COMPONENTS

Senator **SPECTER**. How about the Army? There are the attack helicopters in the Army. Is there a similar tactical component in the Army comparable to what has been described by both the Navy and the Air Force?

General **JAQUISH**. From a close air support and direct fire to the battlefield, obviously the Army has artillery systems and helicopter systems to use in direct fire support on their battlefield. The Air Force, on the other hand——

Senator **SPECTER**. How about tactical fixed wing?

General **JAQUISH**. No, sir; rotary wing only.

Senator **SPECTER**. Well, I don't know the answer to the question. But as I look over the long, complicated sheets, that is a question which recurs in my mind. Whatever rhetoric is applied, I come back to the basic hard-core question as to whether there aren't more similarities that might be handled in a unified way.

One of our colleagues has suggested that we ought to have a competition, a close air support competition between the Army, with the attack helicopters, and the Air Force, with fixed wing aircraft. When I read through a series of proposed competitive lines, my thought was the contrary, that it would be more useful and a greater saving, especially in this era, to try to figure out a way to do it under one umbrella, instead of under two or three.

What do you think, General Pitman? Would you prefer competition among the various branches?

General **PITMAN**. Yes, sir; I think that's good, as long as it is not redundant.

Senator **SPECTER**. But how do you avoid the redundancy? That is the critical issue.

COMMANDERS IN CHIEF

General **PITMAN**. Well, that's done by the Joint Chiefs of Staff and by the CINC's, who look at total requirements and apply the overall forces to see if they have enough. The CINC's, since the Goldwater-Nichols Act, are driving requirements more than the services themselves. It is their job to examine the requirements as they see the threat, and to assess how many of which kind of aircraft they need. We are getting the CINC's opinions through the

Joint Chiefs of Staff, up to OSD, to determine what kind of balanced force is required.

The problem right now is assessing a balanced force against a constantly changing threat. As we have said, the Soviet threat has changed greatly over the past year. The Third World threat is also changing, as the Iraqis try to obtain a nuclear capability. We have chemical capabilities in the hands of people that we don't have much confidence in—regarding their judgment.

So, when all of that is analyzed, we will probably have a better answer. But, as was pointed out earlier, it is a very frustrating time trying to assess the world situation as it changes on a daily basis. But I don't think that there is much duplication. While there may be some, I'm not sure that that's bad in all areas as you spread them out. I know that the Marine Corps does not have enough TacAir to cover all of our ground forces. We are expecting the Navy and the Air Force to assist if we were to deploy all of our ground forces. We do not have enough TacAir to cover them.

V-22

Senator SPECTER. Let me shift to the cost operational and effectiveness analysis, which I am told was completed about 3 weeks ago on the V-22, Admiral Dunleavy.

I have heard some rumors that the V-22 scored very, very well. What have you heard?

Admiral DUNLEAVY. General Pitman will handle the V-22. I will speak for the Navy.

The V-22 is a very, very hard requirement. We need it for the Marine Corps. We need it across the board. It is combat SAR. It is an affordability issue. The cost effectiveness study was recently completed and Chuck will debrief you on that.

General PITMAN. Basically, IDA has completed their analysis and has commenced briefing its results to OSD, who sponsored the study.

I have been privy only to the executive summary which was quite favorable in all categories to the V-22. There are a lot of numbers that can be quoted but they may be reevaluated when they are reviewed in OSD and they look at the overall requirements within the Department of Defense. But we, the Marine Corps and the Navy, believe that it was a thorough analysis, very fair and well balanced. As I say, the V-22, from a cost-effectiveness and survivability standpoint, came across in a favorable light, against all the alternatives.

Senator SPECTER. Well, that is what I had heard. You say that some of the analysis might be reconfigured when it gets to OSD. That is a concern that we have also.

How soon could this subcommittee or a member of this subcommittee have access to those findings?

General PITMAN. Sir, I can't speak for the Department of Defense on that. I can get you an answer. But, as I say, we have completed our summary. We have coordinated it with IDA as far as verifying our view of the assessment. But OSD necessarily has to apply other criteria.

It was not the intent of the study to draw a conclusion. OSD retained that responsibility.

Senator **Specter**. It was not the intent of the study to draw a conclusion?

General **Pitman**. No, sir.

Senator **Specter**. What was the intent of the study?

General **Pitman**. It was to lay out the alternatives and the specific costs, not to determine which one was the best alternative.

Senator **Specter**. Well, if you would get me an answer to that, I would appreciate it. I would like to see the facts before they are reconfigured. There may be some conclusions drawn, as Senator Bumpers would say, on this side of the table.

[The information follows:]

The V-22 cost and operational effectiveness analysis has not been completed. When the analysis is completed, appropriate distribution will be governed by OSD.

Senator **Specter**. Mr. Chairman, I have quite a number of other questions that I would like to submit for the record in the interest of brevity.

Thank you very much, General.

Admiral **Dunleavy**. Mr. Chairman, may I ask to make one statement?

Senator **Inouye**. Yes.

APN MONEYS

Admiral **Dunleavy**. On the APN moneys, Senator Specter, some of that tactical air money was out of the overall APN. Our figure for tactical aircraft, as compared to the other figure you used, is about $5.6 billion and not the $9 billion. That is the overall APN, for everything we buy in the Navy aviationwise. So, actually, tactical aircraft is about $5.6 billion.

Senator **Specter**. Well, OK. If it is $5.6 billion, you still have $6.4 billion in the Air Force, and it still poses about the same question.

General **Jaquish**. Sir, I would like to provide a detailed answer to that. But I believe the Air Force's figure is $4.6 billion. We are buying 36 F-15E's this year.

Senator **Specter**. That's $4.6 billion instead of $6.4 billion?

General **Jaquish**. Yes, sir; we're buying F-15E's and 150 F-16's, and those 186 airplanes are not adequate to maintain the current age of the fleet.

In order to maintain the current age of the aircraft inventory, 36 tactical fighter wings, you would have to procure in the neighborhood of 205 to 210 airplanes per year.

Senator **Specter**. Well, I am glad to see the figures are lower.

Now I am not questioning the need at this point.

General **Jaquish**. I appreciate that.

Senator **Specter**. I am only questioning the possibility of savings if you avoid duplication and put it under one hat.

Thank you very much.

Thank you, Mr. Chairman.

Senator **Inouye**. Thank you.

Senator Stevens.

ALASKAN AIR TRAINING SPACE

Senator STEVENS. Admiral Dunleavy, I understand that before I came in, you had a conversation with Senator McClure about limited air training space that we have available now. I'm a provincial type. Are you familiar with our new air combat training range in Alaska, the new ACMI installation that is being installed in Alaska and that will be available next year and the amount of training space that both Elmendorf and Eilsen have available in my State?

Admiral DUNLEAVY. Yes, sir.

Since the last time we chatted about that, we, the Navy, have been fortunate to have had two major exercises up in the Alaskan area, in both PaceX 89, Pacific Exercise 89, and two battle groups were up there. At one time we had three carriers; another time one carrier. We had a heck of a lot of great training up in the Alaskan air space, utilizing the Air Force facilities and the Air National Guard up there.

I think the figures are close to 10,000 sorties, Navy sorties, flown in the Alaskan air space since the last time we chatted about it.

Senator STEVENS. Well, I hope that DOD doesn't think that somehow or other there is a limitation on air training space when you have the whole Arctic available. As I understand it, western Canada has the same attitude about the use of its air space. It is our hope that that will continue to be a place where there is a considerable utilization of that space.

As a matter of fact, we set aside a considerable amount of land on the ground, a ground area, to make certain that there would be no developments there that would be incompatible with the kind of air training that your people must do.

There are about 3 million acres set aside up there, and there will be no development in it in order that there be no complaints from the ground concerning air training activity. So I would hope that that would be factored as there are complaints from around the world concerning air combat training in particular.

AIR CARRIER FORCE

I wonder, as we look into this air carrier comment, I was with Senator Bumpers last night when he heard Akhromeyev's comments about the Navy. Haven't we substantially increased the capability of the Navy's carrier force in the new carriers that are coming? Won't we, even if we reduce numbers, have an increased capability in our carrier force?

Admiral DUNLEAVY. The most significant increase the new carriers have over the older carriers is nuclear power. There are the same amount of aircraft on board, basically anywhere from 76 to 86. So your firepower is indigenous to your aircraft embarked.

But the flexibility that the new carrier gives you with nuclear power to the battle group commander is the ability to be very, very swift. You can go over 30 knots for many, many hours, in fact for days on end, as compared to the fossil fueled carrier, which probably can do 26 knots on a good day. But he is going to be tied to some fleet oiler every third or fourth day to refuel him. So, the significant advantage of the nuke carrier versus the old carrier is the nuclear power.

When it comes to firepower, that is embarked on the air wing, which is the subject of the meeting here today: how are we going to buy better aircraft and more capable aircraft for the future to be embarked on those carriers?

Senator **Stevens**. Well, Cheney's decision really pointed us toward a 12-carrier Navy, didn't it?

Admiral **Dunleavy**. On the major aircraft review, he mentioned to come down to 620 A-12's based on a 12-carrier force. He said that was for planning only. He is still solidly behind the Secretary of the Navy, who is stating 14 deployable carriers—battle groups—that is our requirement. Our requirement is actually 15. But, for affordability, we're saying 14.

Senator **Stevens**. But it was our understanding, reviewing the capabilities of the 12-carrier Navy, the 12-carrier Navy, when it includes the new carriers that are coming on line, is more effective than the 15 you have out there now.

Admiral **Dunleavy**. Senator, the 12 carrier battle groups ties our hands, we, as a nation, on the ability to make the commitments to ourselves to keep the sea lines of communication open.

If you look at the world, you can say that there are four hubs that we are concerned about: the western Pacific, the Indian Ocean, the Mediterranean, and the Caribbean, looking at it from a naval perspective.

In order for us to maintain our presence, I don't care if it is for putting bombs on targets or missiles up tailpipes or just being there to keep things stable, the carrier battle group has to be there in order to maintain that. If we come down below the 14, someone is going to have to decide which war we are not going to go to, and take that risk of saying OK, we are not going to be concerned about that particular time or that place, and we are not going to have the presence, the naval presence to be there to answer the mail.

I can go through the whole lecture of how we have had 250 incidents in the last 40 years where naval power has been there to tamp it down. Only 18 times has combat been involved and in only 2 of those with Soviet weaponry. So it is a very complicated issue. It is up to us, as Americans, to decide what particular part of the world we want to say OK, we'll take the risk of not being there.

OUR COMMITMENT TO AMERICAN SAILORS

If you go below 14, you go down to 12 and you have to make those commitments, then we're going to break a commitment that we made to the American white hat of promising him that when he sails, he is going to be home 6 months later. Six months portal to portal is sacred to the American sailor. He can live with that 6 months portal to portal family separationwise.

If we go back to the days when we had 7-, 8-, 9-month deployments, he will do that for about two or three times and he'll say hey, or the wife will say hey, it's me or the Navy. Then we get into a retention problem. Then we have our young petty officers, our young junior officers, who will leave the Navy because we, they, like a home life just like everybody else. We are willing to go to sea for 6 months. But if you start making it for longer periods of time, over a longer period of time, the fellows just get tired of being away from home.

So there has to be a balance between military presence, commitments as a nation and also our commitments to our sailors. I have a great fear if we are going to come down below 14, one of the commitments that is going to be broken is either our commitment to the rest of the world to have a military presence or our commitment to our white hats.

Senator **Stevens**. Well, that could provoke a long discussion. You could double crew these aircraft carriers, couldn't you? You could rotate crews and keep the carriers on station.

We could get into a long discussion about that as to where we are going in the future. But I was talking about Cheney's decision about the planned procurement can be safely reduced to 546 aircraft, and that related to the F-14's, it related to the deployable carrier battle group concept, and it came down to the conclusion, I thought, that justified the 12 carrier concept as being equally capable to what we have had out in the past prior to these new carriers arriving.

Do you disagree with that?

Admiral **Dunleavy**. I didn't read the mail that way, Senator. In fact, all what you are talking about is being discussed inside the Department of Defense right now—force levels. That is for the next hearing, for 1992–97. We are going to be discussing that a year from now, or whenever.

But, right now, we are basing everything on 14 carrier battle groups. I have never read anything saying that 12 equals 14 in capabilities. The only difference between what we are talking about right now is nuclear power on our newer carriers.

You mentioned about putting carriers on station and rotating crews. That's 5,000 men. How am I going to do that in the middle of the Indian Ocean? How am I going to do that in the western Pacific or some of the other places? How am I going to do that in the North Atlantic? Rotating crews on large combatants is a very difficult chore. I don't know how to do it.

Senator **Stevens**. Well, I happen to believe that you are on the right course. As an island nation, compared to the Soviet Union, in particular. our trading partners are at the other end of sea lines, primarily, except for two. The Soviet Union does not have that situation and primarily conducts its trade by land, or it can, or by protected waters. It does seem to me that we have a different situation with regard to the Navy in the future.

But I also think we ought to be reading the tea leaves. I just don't believe we are going to end up in the current budget struggle with the funding capability to maintain 14 carrier groups. As such, it seems that this is what Senator Specter was saying, too. We are going to end up with some reanalysis of the overall missions and alignments, and it is going to require some new thinking.

I have just told the chairman that I think it requires some new thinking of us, too, that you all now appear before eight different committees in the course of a year. When I first came here, you appeared before two. As a consequence, the manpower that is dedicated to the congressional process has increased fourfold.

I do think that we all have to sit back and look at the future and try to analyze how we can assure the public that we have the capability that they think we have.

AGGRESSOR TRAINING PROGRAM

Let me ask you, General Jaquish, this. Why did you cancel your Aggressor Training Program?

General JAQUISH. I would like to provide a more detailed answer for the record. But, when we looked at the cost cutbacks associated with the DMR and the value added of those aggressor squadrons, looking to the future, we came to the conclusion that it was an affordability issue.

I think, as you know, those aggressor squadrons were formed in the early to mid-1970's, where our air-to-air training had been grossly deficient, and they served us very well in that period of time, to get our level of training up. The decision was that we could use some other airplanes and go across units to provide similar aircraft, air-to-air training, in that regard.

Senator STEVENS. The Navy has not canceled its aggressor training; isn't that right, Admiral?

Admiral DUNLEAVY. That's correct. We have not and we are not planning on canceling—unless I am forced by another budget cut. We want to keep it. We find it is a very, very demanding training environment for our young F/A-18 fellows and our F-14 fellows for dissimilar air combat training. We utilize the Air National Guard and we utilize the Air Force's different bases. But we also utilized, when we first started training the young fellows, our own aggressor squadrons.

Senator STEVENS. Well, I would like to see your statement on that for the record, General Jaquish.

General JAQUISH. Yes, sir.

[The information follows:]

AGGRESSOR TRAINING PROGRAM

Air Force flying training programs are designed to achieve the highest degree of capability within fiscal constraints and consistent with flying safety. The defense management review [DMR] focused on policy changes, organizational changes, procedural revisions, and resource adjustments that will promote long-term efficiencies. The aggressor program was one such organizational change. The training the aggressors provided was excellent. As you may know, earlier aggressor units flew the F-5 which simulated the MiG-2 (the primary threat at that time) very well. With the operational employment of the current generation of Soviet fighter aircraft, MiG-29 and Su-27, the Air Force began converting the aggressors to F-16's to replicate this threat. Given unconstrained resources, the Air Force would prefer to have a dedicated aggressor force as we did in the past. However, the severe budget constraints that are now faced forced us to search for more cost-effective ways of providing the same training. Unlike the F-5, we have operational F-16 units that can provide dissimilar air combat training [DACT], albeit not dedicated to the aggressor role. With this alternative, the Air Force will save money by eliminating four dedicated adversary training squadrons. It was a difficult decision, as were many of the training-related issues, but it was realized the present fiscal environment simply does not allow the Air Force to afford a dedicated adversary force.

Senator STEVENS. As an old World War II type, I don't understand the difference, why the Navy finds it necessary and the Air Force does not find it necessary to have that type of realistic aggressor training.

Mr. Chairman, I have some other questions that I will put into the record. I came in late and do not want to belabor the hearing.

Thank you.

Senator **Inouye**. Thank you.

I have a few questions.

AIR FORCE ATA

General Jaquish, just last year the Air Force Chief of Staff advanced the schedule of the ATA, also announced plans to purchase a derivative of the ATA in the mid-1990's to replace the F-111 and I believe the F-15E. We have been told that, with the Soviet Stealth technology, at the end of this century the F-111 and the F-15E would not do too well on the battlefield.

So I was surprised when the report came out recommending postponing indefinitely your ATA and calling for the F-15E and the F-111 to serve the purposes.

What happened?

General **Jaquish**. We have not postponed the Air Force's ATA indefinitely. Our first production year will be 1998, and we have money, we plan to have money in the 1992 through 1997 budget to do concept development and full-scale development.

Senator **Inouye**. When will that be operational?

General **Jaquish**. We would take our first deliveries in the year 2000, and the buildup rate is somewhat slow. We would end up with some fielded capability of any measurable combat strength in the year 2003 and 2004.

But that decision was strictly based on two factors— three factors, actually. The age of the current airplanes did not dictate that they had to be replaced immediately. In the case of the Navy, the aging A-6's had to be replaced and the A-12 was that replacement. In the case of the Air Force with the F-111's and the F-15's, as you know, we are buying our last 36 F-15E's this year. So it was the age of that fleet, coupled with the affordability issue. That decision took $1.7 billion out of our 1991 through 1994 budget and saved a total of $10 billion across the SYDP.

So it was an affordability issue, Senator. The Air Force is committed to that airplane and we need that airplane to replace the F-111 and, eventually, the F-15E.

EASTERN EUROPE

Senator **Inouye**. Admiral Dunleavy, the decisions that we are called upon to make are based upon extraordinary events that have happened in Eastern Europe. I would like to make a few observations and ask you whether my observations have any validity or not.

First, I cannot recall anyone, including some of our eminent astrologers, predicting what has been happening for the last year and a half. Did anyone predict that the wall would be tumbling?

Admiral **Dunleavy**. Oh, I don't think any of us thought that the Berlin Wall would be coming down or that peace in Eastern Europe would be breaking out, or that Lithuania and Latvia would be declaring independence. I don't think anybody was smart enough for that.

Senator **Inouye**. That being the case, is anyone capable of predicting what would be happening a year from now?

Admiral **Dunleavy**. Mr. Chairman, only God knows that. I have no idea. I don't think any of us does.

Senator **Inouye**. I have been told that, although a number of naval vessels, Soviet naval vessels have been decommissioned, they were already scheduled to be decommissioned, and that the replacements have actually improved the capability of the Soviet Navy, provided a better platform for their weapon systems; is that correct?

Admiral **Dunleavy**. Sir, the man I listen to on all of that is the Director of our Intelligence, Adm. Tom Brooks. He is saying exactly what you are saying, that the Soviets are actually building better things, more capable platforms, submarines, aircraft carriers, and other combatants. So their capability is not only being maintained, it is being enhanced. People confuse the numbers versus the capability.

Senator **Inouye**. While we are debating whether we should have the rail garrison MX or the small ICBM, the Soviets have already deployed and are continuing to deploy their equipment with their rail garrison MX?

Admiral **Dunleavy**. I am not qualified to answer that one.

General **Jaquish**. I don't know, sir.

Senator **Inouye**. Is it also a valid observation to suggest that there are hot spots on this planet, such as the Middle East and Korea, and that if these hot spots become violent, we would, as a result of treaties and otherwise, be involved?

Admiral **Dunleavy**. Yes, sir; you could add India and Pakistan. I look at North Korea/South Korea; India/Pakistan; Iran/Iraq; Egypt and Libya; and Israel and Syria.

Senator **Inouye**. Then should we be concerned about a Soviet threat?

Admiral **Dunleavy**. I think we should be concerned about both.

This, now, is a personal opinion. I want to make sure the press understands that this is my own personal opinion. The Soviet has a fantastic capability and he can match us down through nuclear power and everything else, and he has the ability to come at us. But why does he have to come at us himself when he can come at us through the Third World as he has been doing since 1946?

SOVIET THREAT IN THE THIRD WORLD

I am concerned about the Soviet threat through the Third World. I am concerned about the Third World and what it has been doing for the last 40 years. I am concerned about how our fellows have to go in on, say, a few hours' notice and go after something very, very difficult and very, very professionally manned, and very integrated, such as an air defense system in Syria.

People can say why are you hung up on Syria. It's because right now, outside of the Soviets, that is one of the most difficult targets we would have to go after if we are told to do so.

You have no chance for a rollback. You are going to be restricted by saying you have to be very, very selective in your targeting, no collateral damage and, by God, don't ever lose a crewman. Those are exceptionally tough challenges.

If we went against the Soviets head-to-head, it would be outright war and the rules would change. But I don't see that happening.

We, as an American people, have never had any desire to go anywhere but the United States. We love it here in the United States. We never had any compulsion to go over and take the Soviets on. I don't care what Akhromeyev says, and maybe Admiral Crowe did change his mind. But they have always had the desire to infringe upon our way of life, to take us down, whether they wanted or not. And they can do it through the Third World, and they have been doing it. Just look around the world for the last 40 years. Do you think people are merely nationalist? Yes, some of them are nationalist, but a lot of them are influenced by the people in the Kremlin.

That is my concern. So, you have to have a balance between taking on the Soviets and being ready to respond to the Third World.

SOVIET PRODUCTION OF ICBM'S

Senator **Inouye**. Is it also true that the Soviet production of ICBM's is on schedule and has not been diminished?

Admiral **Dunleavy**. That, again, is above my pay grade. I am not qualified to answer that one.

General **Jaquish**. Sir, I would like to provide a response on that for the record. I believe that would be a classified response, but we can get one to you.

[The information follows:]

Soviet Production of ICBM's

[Deleted.]

SOVIET NUCLEAR SUBMARINES

Senator **Inouye**. Is it also true that the Soviets continue to produce, on schedule, nuclear submarines?

Admiral **Dunleavy**. I don't know what the classification of this program is. I think Admiral Brooks has come over here and testified on what they have done in the past and what we see being done there, right now, today, by way of production of submarines.

Senator **Inouye**. I ask this question because one gets the impression, if we read certain articles, that the Soviets are unilaterally dismantling their forces. But the information I seem to gather suggests that the strategic force, at least, is not being diminished at all. In fact, it has been improved and enhanced.

Admiral **Dunleavy**. I read the same things you do, Senator. They have this big tow-away of combatants to Denmark and Korea to scrap, and every one of those things are old ships that have not been at sea in years.

Senator **Inouye**. In fact, some of them were in drydock for about 10 years.

Gentlemen, I have many other questions and I would like to submit some of them that are on the borderline of classification. I don't wish to even ask them.

I would hope that you would look them over and respond in an appropriate fashion.

I wish to thank all of you for your testimony here this morning. General Pitman, I wish you Godspeed, sir.

General **Pitman**. Thank you, sir.

Senator **Inouye**. We have a difficult task before us and we have to determine how best to provide for your needs at this very difficult time.

As I told the Admiral, I just hope that in this euphoric mood, we don't make mistakes. History has shown that in past periods of euphoria, we have made mistakes, costly mistakes. Your participation here has been most helpful. I hope that we can continue to draw upon your expertise as we go forward in our deliberations.

ADDITIONAL COMMITTEE QUESTIONS

We will submit the balance of the questions for response in the record.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO ADMIRAL DUNLEAVY BY SENATOR INOUYE

AIRBORNE SELF PROTECTION JAMMER

QUESTION: How much is in your budget for ASPJ, and can you explain how the system can be unaffordable for the Air Force, but not for the Navy?

ANSWER: The Navy has $171.9 million in the fiscal year 1991 budget. This includes funding for research and development, aircraft integration, aircraft installation, testing, support, and procurement of 46, Lot 2 systems. The stated Air Force position is that ASPJ is unaffordable because funding requirements of higher priority programs do not leave sufficient funds for ASPJ. Survivability of tactical aircraft is a very high priority, and ASPJ is a very integral part of our tactical aircraft "survivability suite." ASPJ is affordable on the Navy priority list.

QUESTION: Admiral Dunleavy, I understand ASPJ has experienced testing problems. Have you reviewed the test results, and if so what is your view of this criticism?

ANSWER: I have reviewed the test results, and I am very familiar with them. The main problem was not that ASPJ did not perform as it should have, but rather the criteria by which we measured its effectiveness was not adequate to assess the total contribution of ASPJ to aircraft survivability. Specifically, the test plan did not require measurement of ASPJ's ability to prevent a threat system from locking on and firing. The independent tester recognized this test plan shortcoming and ASPJ's capability against the modern threat, and, even though testing this capability was not a part of the test plan, recommended a production decision. The measure of ASPJ system effectiveness is being expanded to include its total contribution to aircraft survivability.

QUESTION: Admiral Dunleavy, are you familiar with the classified program favored by the Air Force to replace ASPJ? Why is the Navy not recommending this type of system for its aircraft in lieu of the ASPJ?

ANSWER: I am familiar with the Air Force alternative as it is similar to a part of an ECM suite that the Navy is developing. This part of the ECM suite is designed to deal with missiles in the terminal phase of the engagement, and therefore is not intended to prevent a threat system from obtaining a firing solution and launching missiles. In keeping with the Navy philosophy of "defense in depth," our program calls for this capability to be integrated with the onboard jammer. ASPJ will prevent the majority of threat systems from obtaining a firing solution. When integrated as part of the ECM suite, this "Air Force alternative" system will deal only with those few missiles that obtain a firing solution and are launched. If this "Air Force alternative" is not integrated with the onboard jammer, a greater number of missiles will obtain a firing solution and be launched. In short, the "alternative" was designed as an enhancement to the overall survivability suite, and not as a replacement for the onboard jammer.

ADVANCED TACTICAL FIGHTER (ATF)

QUESTION: General Jaquish and Admiral Dunleavy, what were the major alternatives to both the Air Force and Navy ATF considered during the Major Aircraft Review? What were the critical performance differences between each alternative and the ATF? Was the ATF marginally -- or significantly -- more cost effective than each alternative?

ANSWER: The Major Aircraft Review was an OSD conducted review in which the Services participated. The Navy supplied information to OSD for their analysis but did not conduct the analysis or directly participate in the decision process. It would be more appropriate for this question to be directed to OSD.

QUESTION: I understand the Navy still plans to have 14 carrier battle groups. However, if the decision is made to reduce carriers to 12 by 1995, what is the impact on your requirements for additional F-14 aircraft?

ANSWER: The Secretary of the Navy has stated a requirement for 14 carrier battle groups which is reflected in this year's budget submission. A reduction in deployable carrier will ease somewhat the requirement for fighter aircraft, however, it will not obviate the requirement for fighter modernization in the form of the F-14D which includes digital avionics, or further downstream, the introduction of the NATF.

USAF A-12 PROGRAM

QUESTION: Admiral Dunleavy, do you support the decision on the Air Force ATA? What, if any, is the impact on the cost of the Navy A-12 program?

ANSWER: I support the Secretary of Defense, however, the Navy will now have to absorb most of the total program non-recurring costs, in addition to higher total program recurring costs, since the Navy is procuring more of the early production aircraft. This will add costs, which have yet to be quantified, to the Navy A-12 program.

AV-8B

QUESTION: Admiral, considering that the Marine Corps will not have the full number of AV-8B aircraft it requires after 1991, why are you not requesting advance procurement to continue the AV-8B?

ANSWER: As a result of the Department of the Navy Integrated Amphibious Operations and USMC Air Support Study, we determined that our requirement is for seven operational squadrons of AV-8B's, plus training aircraft, pipeline and attrition. Previous studies indicated that the requirement was for eight operational squadrons. The 276 Harriers we will have procured through 1991 satisfy our near-term requirements.

P-7 ANTI-SUBMARINE WARFARE AIRCRAFT

QUESTION : Admiral Dunleavy, the P-7 anti-submarine warfare (ASW) aircraft has suffered a major overrun of at least $300 million. What are the principle reasons for such a large overrun and who is responsible for paying these costs -- the government or the contractor? How much more will each have to pay?

ANSWER: Lockheed announced a $300 million write off in the fourth quarter 1989, related primarily to the Full Scale Engineering Development (FSED) phase of the P-7A. Lockheed believes the primary cause for the magnitude of these losses was the lack of contractor-anticipated commonality between the P-7A and the P-3C caused by Lockheed's changes to the design to make the aircraft more efficient to produce. This reduced commonality increased the design effort and the required level of Lockheed aircraft demonstration testing, leading to higher development costs. The fixed-price incentive FSED contract has a target price of $600 million with a 125% ceiling and a 50/50 share ratio. The Navy will share any increase costs above the $600 million target price until the Navy reaches its $750 million ceiling price (an increase of $150 million). At that point, Lockheed assumes any additional cost. If the Lockheed losses are $300 million in the FSED program, the Navy would be forced to the ceiling price.

QUESTION : For some time now, the Navy has said it is reviewing the entire P-7 program. When will this review be complete and what are its emerging conclusions?

ANSWER: The Navy's independent review team concluded its assigned tasks in April 1990. The technical team found that the Lockheed P-7 design was sound, that subsystems were on schedule, that the weight will increase approximately 4% and that the aircraft will meet all the operational requirements. The cost team reviewed Lockheed's cost data and completed a revised estimate of the production program. Since that review, Lockheed has announced major cost reduction efforts that are being evaluated at this time.

QUESTION : What alternatives to the P-7 exist? Can the P-3C be further upgraded and its service life extended?

ANSWER: If an alternative for P-7 was required, the Navy would thoroughly investigate all possible options, including the possibility of P-3C upgrade and service life extension, to find a feasible alternative in terms of cost, suitability, schedule, and executability.

QUESTION: Will the Navy decide to buy fewer P-7's, or reduce the capabilities of each, to absorb the larger cost overrun?

ANSWER: The Navy's intention is to proceed with the present contract to build the P-7 airplane. There is no Navy intent to reduce the capabilities of the P-7 or buy fewer aircraft. Lockheed has not contested the fact that they are responsible to fund any FSED cost overruns. They are also making several significant corporate decisions to reduce the production cost of the airplane. The Navy and Lockheed have been working to restructure a program that will meet all requirements and remain within present contract bounds.

STANDOFF LAND ATTACK MISSILE (SLAM)

QUESTION: Admiral Dunleavy, the SLAM variant of the Harpoon Missile was sold to Congress as an "interim" weapon which would satisfy an immediate requirement until the follow-on Advanced Strike Weapon is fielded. The Committee is now being told that the inventory objective of the SLAM is being doubled by the Navy. Why has the Navy decided to double the inventory objective of the SLAM missile...are there problems with the development of the Advanced Strike Weapon?

ANSWER: The answer will be provided by separate correspondence under higher classification.

QUESTION: Admiral Dunleavy, the committee understands that the Navy plans a Pre-Planned Product Improvement (P3I) program for the SLAM missile. What will this P3I program accomplish?

ANSWER: The department has no formal plans for SLAM P3I at this time.

QUESTION: If this is an interim system, why is the Navy continuing to improve its capabilities?

ANSWER: The department has no formal plans for SLAM P3I at this time.

QUESTION: What is the current fly away cost of the SLAM missile? What is the estimated cost of the P3I version of the SLAM?

ANSWER: The unit fly away costs of SLAM are $875,000 for FY 1990 and $883,000 for FY 1991. There is no program established for an improved SLAM at this time.

QUESTION: What is the estimated fly away cost of the follow-on Advanced Strike Weapon? What improved capabilities will the Advanced Strike Weapon have over the P3I SLAM?

ANSWER: The answer will be provided by separate correspondence under higher classification.

PHOENIX MISSILE PROGRAM

QUESTION: Admiral Dunleavy, due to the reported problems with the AAAM program, there have been suggestions that the Navy should reconsider the decision to terminate the Phoenix program at this time. What is the current Navy thinking on this matter?

ANSWER: The decision to terminate Phoenix was prudent in light of the austere fiscal environment, changing world conditions, as well as the need to proceed with the next generation of long range Air-to-Air Missiles required to meet future weapons system capabilities. I am unaware of any problem in the AAAM program.

QUESTION: Admiral Dunleavy, because the Navy is only procuring one-half of their required inventory objective, some are suggesting that Congress should support a retrofit program for all older variants of the Phoenix missile to the AIM-54C configuration. What is the Navy's position on a retrofit program?

ANSWER: We are currently considering various upgrades to our existing inventory of Phoenix. The analysis and review are incomplete at this point and a decision to undertake or not undertake a retrofit program has yet to be made.

QUESTION: Admiral Dunleavy, the Navy has spent millions of dollars developing a second source for the Phoenix missile, based upon an analysis that said that the government would recoup this investment and save money over the life of the program through competition. Now that the inventory objective has been cut in half, will the government ever recoup its investment? How does Congress ensure that we don't make this same mistake again?

ANSWER: The reduction in Phoenix pricing for the last year's buy was a direct reflection of stiff competition. We use the best information at hand in making our procurement decisions. Phoenix dual sourcing made sense at the time. We proceeded with the best option and acquisition strategy within fiscal constraints. Hindsight, and past experience with similar programs, is part of the foundation for future procurement programs.

QUESTION: Admiral Dunleavy, there is a plan by one of the contractors to split the FY-90 procurement over a two year funded delivery period. With the problems with the AAAM program, it appears that keeping the Phoenix production lines going one additional year may have merit. What is the Navy's position on this proposal? What is the Navy's estimated cost to keep the lines open one additional year?

ANSWER: I am unaware of any problems with the AAAM program, however, our estimates indicate the cost is approximately $103 million to keep the lines open. We are considering various upgrades to our existing Phoenix inventory. Those decisions may be reflected in future budget submissions.

QUESTION SUBMITTED TO ADMIRAL DUNLEAVY BY SENATOR BYRD

AIRCRAFT PROCUREMENT

QUESTION: The Navy Department operates about 35 percent of U.S. tactical aircraft, including over 10 percent operated by the Marine Corps. The Navy's highest aviation priority is the A-12 Advanced Tactical Aircraft, a stealth aircraft that will begin replacing the A-6 attack plane in the mid-1990's. On April 26, Secretary of Defense Cheney reported to the Senate Armed Services Committee on a recently completed Defense Department review of four major aircraft programs, including the Navy's A-12 Advanced Tactical Aircraft. Secretary Cheney recommended reducing procurement of the A-12 Advanced Tactical Aircraft from 858 to 620 aircraft, citing as one reason a determination that the A-12 does not meet Marine Corps requirements. However, I am advised that General Pitman told this Committee last year that the Marines were not planning to acquire the A-12, because the F/A-18D would meet Marine Corps needs at less cost. Consequently, I was surprised to learn that a Marine Corps requirement for the A-12 was still regarded as justification for procuring these aircraft. Why did Secretary Cheney's statement make it appear that the recent program review had eliminated the Marine Corps requirement for the A-12 when the Marine Corps had already made that decision a year ago? Please provide for the record the numbers of A-12's in the original 858-plane program that were justified on the basis of: (1) Navy requirements; and (2) Marine Corps requirements, including assumptions about attrition, pipeline, and training as well as Navy and Marine Corps force levels.

ANSWER: The original acquisition plan was for 858 A-12's to meet both the Navy and Marine Corps medium attack aircraft requirements. This number would support a force level of 13 active and 2 reserve carrier airwings and 5 USMC attack squadrons. The decision to fill the Marine Corps requirement with a two-seat variant of the Hornet was proposed by the Marine Corps approximately one year ago, but was not approved by the Secretary of the Navy until after submittal of the 1988 Selected Acquisition Report (SAR). The total procurement quantity of 620 aircraft, which was recently announced by Secretary Cheney, reflects no Marine Corps participation. This quantity is predicated on a total of 13 carrier airwings, training aircraft, an allowance for depot level pipeline, 8 test and evaluation aircraft, and anticipated peacetime attrition losses through 2020, when a follow-on aircraft is planned.

The A-12 planning factor for attrition is 1.9 percent per year; the requirement for the Fleet Replacement Squadrons is 25% of operational A-12's; and the number of A-12's in the depot level repair pipeline is 15 percent.

QUESTIONS SUBMITTED TO ADMIRAL DUNLEAVY BY SENATOR D'AMATO

S-3 REQUIREMENT VS INVENTORY

QUESTION: How do you reconcile the growing shortfall in S-3's with the planned transition to the Roosevelt Airwing configuration that increases the requirement for S-3's?

ANSWER: The Navy is studying the PAA required for S-3 aircraft in current and future Airwings. Results will be provided when available.

QUESTION: Does the Navy intend to reopen the S-3 line?

ANSWER: Currently the Navy is reviewing plans for future aircraft requirements. There are no plans at this time to reopen the S-3 line.

QUESTION: Why has the Navy persistently rejected using a Tilt-Rotor configured for ASW to supplement or replace the S-3 and/or the SH-3?

ANSWER: The Navy and department of defense are studying the use of Tilt-Rotor aircraft in a variety of Navy and Marine Corp missions and will evaluate the results of those studies for future applicability in ASW operations.

S-3 ON-STATION TURNOVER AND CYCLIC FLIGHT OPERATIONS

QUESTION: Are the difficulties S-3's experience with on-station turnover caused by cyclic flight operations purely a peacetime phenomenon?

ANSWER: The S-3's dash speed, endurance and extensive communications suite are ideally suited for effecting on-station turnovers during cyclic operations. Cyclic operations do not present a significant problem in effecting on-station turnovers in peacetime or in hostile environments.

QUESTION: How seriously does this phenomenon disrupt the successful prosecution of a submarine contact?

ANSWER: The S-3's endurance, ordnance payload and inflight refueling capability offer the Battle Group Commander flexibility in sustaining submarine contact during turnovers while conducting cyclic flight operations.

EA-6B SHORTFALL

QUESTION: Secretary Cheney's revised A-12 buy makes no provision for A-12's configuration as "jammers". How does the Navy now intend to address the serious shortfall in EA-6Bs?

ANSWER: Action is being taken by the Navy to address the projected EA-6B shortfall. In the short term, the EA-6B shortfall is considered a prudent and manageable risk in this changing threat and world political situation. Force level discussions are currently on-going within the Department and will be reflected in next year's budget submission.

DEDICATED CARRIER-BORNE TANKER

QUESTION: As A-12s enter the fleet, will the Navy remanufacture A-6s into dedicated tankers to relieve attack and ASW assets of tanking duty?

ANSWER: No, there is no plan to remanufacture A-6s into KA-6Ds since the A-12 will have an aerial refueling capability with which to augment the S-3 tankers that are now in the Fleet. The cost associated with continuing to support a relatively small number of KA-6Ds is not warranted given the availability of other aircraft capable of performing the aerial tanking mission.

TACTICAL AIRPOWER

QUESTION: Though it has repeatedly been promised to us, the Navy has yet to deliver the Naval Aviation Plan to Congress, much less the once heralded Carrier Air Wing Study 2010. When do you expect that we will receive some semblance of a long-range plan for naval aviation from the Navy?

ANSWER: The FY-90 Naval Aviation Plan received final SECNAV approval during mid-May. Publication of this document is underway and it is anticipated that advance copies will be available on Capital Hill during the first week of June.

QUESTIONS SUBMITTED TO ADMIRAL DUNLEAVY BY SENATOR SPECTER

V-22 OSPREY TILT-ROTOR AIRCRAFT

QUESTION: In a 3 May 1990 article in Defense Daily you stated that if the V-22 were to be reinstated that it would force the Navy to remove funding from other programs in favor of the V-22. If the V-22 were not reinstated, would not the Navy be required to purchase alternative aircraft in 1991 and beyond to fill an existing Marine Corps requirements?

ANSWER: Yes. The DON will procure a replacement for the aging fleet of Medium Lift CH-46's to fill the existing Marine Corps requirement.

QUESTION: If the V-22 were found to be the most cost effective solution to Marine Corps requirements, wouldn't it actually result in life cycle cost savings to the Navy when compared to the life cycle costs of the alternative aircraft you now plan to procure?

ANSWER: The recently completed Cost and Operational Effectiveness Analysis (COEA) by IDA states that the V-22 is more cost effective than the proposed alternative of CH-60's/CH-53's for the missions evaluated.

QUESTIONS SUBMITTED TO GENERAL PITMAN BY SENATOR INOUYE

AV-8B HARRIER

Question: General Pitman, your statement refers to developing a radar version of the AV-8B. What is the cost to the U. S. government to develop this radar version?

Answer: The Secretary of the Navy, in granting approval to proceed with development of a radar variant of the AV-8B, directed that the cost be borne within programmed resources. Thus, the cost of the radar development will come from two primary sources -- offsets within the AV-8B program, and investment by Spain and Italy, who are sharing in this cooperative development program. Additionally, Congress appropriated $10M of NATO R&D funding in FY90 to assist the radar development effort.

Question: If the Marines don't plan to buy any more AV-8B aircraft after 1991, does it make sense to develop this radar version and install it in the few remaining Marine AV-8B aircraft?

Answer: I think installation of the radar in the AV-8B makes good economic and operational sense. Because the program is being funded within programmed resources, the Marine Corps will receive approximately 24 radar-equipped aircraft at the same price we would have paid for non-radar equipped aircraft. Italy and Spain are interested in the AV-8B only if it has radar, and they have agreed to pay a considerable amount of the development costs. Because our allies will be keeping the production line "hot," we would be in a good position to capitalize on that if the need arose for us to procure more AV-8Bs at some point in the future. We would not be faced with the prospect of having to pay the significant re-start cost of that production line.

Operationally, there are two primary advantages of having the radar equipped Harrier. First, the radar gives the aircraft an enhanced night capability which it currently lacks, increasing the aircraft's effectiveness especially when deployed with our Marine Air Ground Task Forces. Second, because our allies will have the same aircraft, our level of interoperability in Europe will be enhanced, and we will have a broader base of support for spares and repair parts.

We have given this program a lot of thought and effort, and I am convinced that the advantages far outweigh any potential disadvantages.

Question: General Pitman, your need for 323 AV-8B aircraft, does this take into account any force structure reductions in Marine Corps attack aircraft squadrons?

Answer: Our requirement for 323 AV-8Bs was based on a need for eight operational squadrons, one training squadron, pipeline and attrition. Our requirement now is for only seven operational squadrons, training, pipeline, and attrition. That requirement is valid in light of the proposed force structure reductions.

Question: Do you anticipate any such reductions? If not, why?

Answer: We do foresee some force structure reductions, but we have not yet determined exactly which aircraft communities will bear the brunt of those reductions, or to what extent. Preliminary indications are that the attack aircraft squadrons will remain essentially intact.

Question: Are you looking at buying AV-8B aircraft for the Reserves?

Answer: We have no plans to procure AV-8Bs for the Marine Corps Reserve.

V-22 OSREY TILTROTOR

Question: General Pitman, I understand a new Cost and Operational Effectiveness Analysis on the V-22 is nearing completion. What were the preliminary cost comparisons for the V-22 and possible alternatives? What are the principal conclusions of the performance analysis among the V-22 and the alternatives?

Answer: I have not had an opportunity to review all of the data with respect to the Cost and Operational Effectiveness Analysis. I have received an executive summary briefing which indicates that the V-22 was the least costly alternative over the life cycle of the program. My information is not yet sufficiently detailed to accurately reflect a precise cost comparison.

I can be more specific with respect to the performance comparison. The analysis shows that the V-22 is 1.3 to 2.2 times more operationally effective than any of the alternatives, depending upon the mission under consideration.

Question: General Pitman, you have stated that addressing the Marines medium lift shortfall is the Commandant's number one priority. Does this statement apply to the use of upgraded helicopters, such as the CH-53s and CH-60s, if Congress decides this is as acceptable alternative to the V-22?

Answer: Solving the medium lift shortfall is, without question, our number one priority. The shortfall is a problem that must be addressed from two separate, but related perspectives -- operational effectiveness and cost. Preliminary results of the V-22 Cost and Operational Effectiveness Analysis indicate that the CH-53/CH-60 alternative was found lacking from both perspectives.

While there is no question that the Marine Corps would follow the dictates of Congress, we would not be acting responsibly if we were to declare that the situation is so desperate that we would willingly take any aircraft to fill that shortfall. Our goal is to field a replacement for our current medium lift fleet that will take us well into the next century at a reasonable cost, and with the requisite capabilities that will ensure our success in combat, should the need arise.

Question: The Marine Corps budget will come under the same type of pressure as the overall budget. Would the Marines choose to purchase the V-22 at the expense of procurement of the AV-8B, the F/A-18C/D, and the CH-53E?

Answer: The Marine Corps continues to focus its planning efforts on maintaining a balanced force. Additionally, Marine Aviation must develop its plans and programs in consonance with the U.S. Navy to provide balance within Naval Aviation. Thus, if the V-22 were restored without the requisite funding in the Aircraft Procurement, Navy account, an accommodation would have to be worked out within the Department of the Navy. I cannot accurately predict what trade-offs would have to be made if we were faced with the situation you describe.

Question: General Powell has indicated that the V-22 would not have provided any major advantages in the invasion of Panama. Do you agree, General Pitman?

Answer: General Powell was certainly much closer than I to the planning and execution of "Operation Just Cause," and I do not think it would be productive to engage in "monday morning quarterbacking." However, there are two areas where I think the V-22 would have advantages in future commitments of a similar nature.

The first advantage is survivability. A number of helicopters were lost to small arms fire, whereas the V-22 provides ballistic tolerance to a degree that very nearly eliminates the probability of serious damage due to small arms fire.

The second advantage applies to a simplified logistics concept. Many of the helicopters were taken to Panama aboard Military Airlift Command (MAC) transport aircraft. Not only does that use up valuable MAC sorties, it also contributes to airfield congestion and requires additional sorties to carry the troops that eventually must link up with the helicopters that will transport them into combat. The V-22 can self-deploy to such areas intact, carrying a full load of troops, and be ready to fight upon arrival. Because it does not require a runway, fixed facilities would be freed up for other purposes.

"Just Cause" also benefitted greatly from having a fixed forward base from which to operate. Without such a facility in future conflicts, the advantages of the V-22 would be far more pronounced.

Question: General Pitman, what is the status of the V-22 advance procurement funding -- has it been released for obligation by the Secretary of Defense?

Answer: The FY89 advance procurement funding for the V-22 has not been released by the Secretary of Defense.

QUESTION SUBMITTED TO GENERAL PITMAN BY SENATOR BYRD

V-22 OSPREY TILTROTOR

Question: Congress has been much concerned about the future of the Marine Corps V-22 tilt-rotor transport aircraft, which the Defense Department has opposed on affordability grounds. How has the cost of the V-22 program been affected by the Defense Department's decision in December 1989 to cancel advance procurement contracts funded in FY89? Please discuss the current funding status of the V-22 program and provide for the record data comparing the costs and the capabilities of the V-22 versus helicopter alternatives.

Answer: Termination of the V-22 procurement effort in December, 1989 resulted in the loss of not-to-exceed production options. The cost impact may run as high as $800M, but it would be difficult to determine the exact cost impact until those options are renegotiated.

Current funding for the V-22 program is limited to $255M in FY90 R&D.

The congressionally mandated Cost and Operational Effectiveness Analysis (COEA) will reflect the latest cost and capabilities comparisons between the V-22 and the alternatives. The executive summary briefing I received indicated that the V-22 is more operationally effective than any of the alternatives by a factor ranging from 1.3 to 2.2, depending on the specific mission evaluated. The data also show that the V-22 is less costly over the life cycle of the program than any of the alternatives.

The COEA has not yet received final review and clearance within DOD.

QUESTION SUBMITTED TO GENERAL PITMAN BY SENATOR D'AMATO

FAA CERTIFICATION OF THE TILT-ROTOR

QUESTION: Please describe the Joint Certification program for the V-22 being conducted by the Marines and FAA.

ANSWER: The Joint Certification Agreement for the V-22 program is an agreement between the Department of Defense and the Federal Aviation Administration established under a 1988 Memorandum of Agreement. The purpose of the agreement is to facilitate the FAA participation in ground and flight testing and to assure timely access to appropriate technical data and information from the military V-22 program. The data and information will be used by the FAA to expedite the Civil Tilt-Rotor certification process and to allow for an early introduction of operational Civil Tilt-Rotor aircraft into the national air transportation system. At the present time, there is a FAA team reviewing the flight test data at the Bell Helicopter Flight Test Center in Texas. The team is from the Southwest Region of the FAA office. However, due to the early stage of the V-22 flight test program, the primary emphasis of the flight data is focused upon the envelope expansion. Relevant flight data for the FAA concerns will commence in the early part of 1991 when the V-22 aircraft performance is demonstrated in related mission performance scenarios.

QUESTION SUBMITTED TO GENERAL PITMAN BY SENATOR SPECTER

V-22 OSPREY TILTROTOR

Question: General Pitman, in your prepared testimony you fail to make any mention of the results of the V-22 Cost Effectiveness & Operational Analysis although the results of this study were briefed to the Steering Committee several weeks ago. Have you seen anything in the COEA study that would cause you to opt for other than the V-22 as the Marine Corps medium lift assault aircraft?

Answer: Based on what I have seen of the Cost and Operational Effectiveness Analysis, the V-22 is more operationally effective than any of the alternatives by a factor of from 1.3 to 2.2, depending upon the mission. The V-22 is also less costly than the alternatives over the life cycle. There is nothing in those results that would cause me to opt for any other solution.

QUESTIONS SUBMITTED TO GENERAL JAQUISH BY SENATOR INOUYE

ADVANCED TACTICAL FIGHTER

Question: General Jaquish, Secretary Cheney indicated a new review of total force structure could lower the inventory objective of the ATF.

What alternative inventory objectives and number of fighter wings are considered? What impact would each alternative have on ATF unit costs?

Answer: Prior to building every Program Objective Memorandum (POM), the Secretary considers many options and alternatives in insuring national objectives are served within the constraints of fiscal realities. This year is no exception. These decisions are not yet finalized, and their outcome will be presented with the POM.

Question: What are the possible extensions to the F-15 service life? When can the Air Force begin to implement such a program?

Answer: The F-15 was originally designed for a 4000 hour service life. This was historically consistent with previous fighter designs and would have given the F-15 an approximate 12-13 year service life. Subsequent structural testing demonstrated, with close monitoring and periodic replacement of outer wing and vertical tail components, that the F-15 could be certified to 8000 hours (approximately 25 years) service life. This is an optimistic number based on historical data and analyses of operational use. Realistic estimates fall in the 6,000 to 8,000 hour (19-25 years) range. Major rebuilds of aircraft structure would be required to further extend the service life. No programs are currently planned to further extend the service life of the F-15 because assessments of F-15 operational capability at the end of its service life and the cost of such major rebuilds are not cost effective.

Question: General Jaquish and Admiral Dunleavy, what were the major alternatives to both the Air Force and Navy ATF considered during the Major Aircraft Review? What were the critical performance differences between each alternative and the ATF. Was the ATF marginally--or significantly--more cost effective than each alternative?

Answer: Alternatives to ATF examined during the Major Aircraft Review (MAR) included F-15 and F-16 derivatives and a single engine design. The alternative aircraft were compared against their ability to achieve first-look first-kill, ability to survive in hostile airspace, maneuverability, payload capacity, and radius of action. All F-15 and F-16 derivatives were eliminated from competition due to major deficiencies in first-look first-kill capability and survivability. The single engine alternative could not meet the minimum payload requirement and had marginal first-look first-kill capability due to avionics limitations. The ATF and the F-15 derivatives were roughly equivalent in cost comparison. The single engine alternatives (F-16 derivatives and the single engine design) were approximately 70 percent of the dual engine derivatives. The ATF was clearly superior because it was the only alternative that could perform the mission while being very cost competitive.

QUESTION: Secretary Cheney noted plans to extend the life of the F-111 as an interim solution to the ATA delay. What program is there to extend the F-111; how much additional life will this add and at what cost?

ANSWER: There are two major reliability and maintainability modifications currently underway that extend the F-111 service life to the year 2010. The Avionics Modernization Program upgrades the F-111 Inertial Navigation System, Terrain Following Radar, and Attack Radar. The Digital Flight Control System modifies the F-111 analog flight control system to a state-of-the-art digital system. Procurement cost for the Avionics Modernization Program is $920.5M ($0 remaining), and for the Digital Flight Control System is $75.7M ($72.1M remaining).

Question: The ATA is designed to meet the threat of Soviet and other sophisticated air defenses using stealth technology. Will the F-111 or F-15E be able to survive on the battlefield of the late 1990's against the expected Soviet air defense threat?

Answer: Ongoing avionics upgrades offer increased capability for the F-111 and F-15E aircraft, making them survivable on the electronic battlefield of the 90's. The ATA will allow survivability beyond the year 2000.

Question: General Jaquish, what is the impact on your R&D requirements in fiscal year 1990 and 1991 resulting from this decision?

Answer: There will be no impact to the FY1990/1991 R&D budget resulting from the Major Aircraft Review decision. The Air Force will continue R&D efforts that center on reducing risk to the planned changes to the Navy A-12.

QUESTION: General Jaquish, for the record, considering the ranges of the ATA, the F-15E, and the F-111, list the number and type of targets inside the Soviet Union which each can range from NATO bases in the U.K. carrying a full payload and without refueling. Provide the same information for other NATO bases outside of West Germany.

ANSWER: The combat range of each aircraft type will depend on the specific enemy defenses that may require the aircraft to penetrate at different altitudes in order to reach the target. Nominal range for the F-111/ATA carrying a full payload is approximately 750 NM and for the F-15E is 650 NM. The number and types of targets are controlled by the National Command Authority and designated by that agency.

ASPJ

Question : General Jaquish, I am told that one way you will replace ASPJ is to use externally mounted pods, such as the ALQ-184. How will this be accomplished in those F-15 and F-16 aircraft equipped with the LANTIRN pods?

Answer: The operational commander will determine/direct pod installation depending upon the threat environment. Until another self-protection jamming solution is available, pods will be used when required. Tactical Air Command is investigating self-protection possibilities for the LANTIRN equipped F-16C aircraft. The F-15E, which carries the LANTIRN pod, is equipped with an internal jamming system, the ALQ-135. The Air Force's termination of its participation in ASPJ has had no impact on the F-15E self-protection capabilities.

Question : General Jaquish, remembering that this is an unclassified session, can you tell us what plans you have to replace ASPJ and what confidence you have that any replacement system will be effective in the anticipated threat environment?

Answer: There are no plans for an internal jamming system to replace the ASPJ system at this time. The reason is affordability. The cost avoidance from this program was used to fund higher priority Air Force programs. After the Air Force terminated its participation in ASPJ, no funds remained for another off-the-shelf internal jammer for the F-16C. Our back-up system is the electronic countermeasures pods which will be used in conjunction with advanced chaff and flare dispensers and the 'common' advanced radar warning receiver (AN/ALR-56M) to provide self-protection capability to our fighter aircraft.

QUESTION: General Jaquish, after spending $629 million in ASPJ development and production, do you think it would be a wise investment to continue Air Force testing of ASPJ?

ANSWER: We do not consider funding of future ASPJ testing as a prudent investment or in the best interest of the taxpayer or government. Affordability is the primary reason the Air Force terminated the ASPJ program. The cost avoidance over the next six years of $1.8 billion outweighed the sunk costs of $629 million spent for ASPJ development and production. In our view the $629 million is not wasted considering that the Air Force helped the program reach its current stage of development. Affordability is also the issue in deciding whether or not to continue Air Force testing of the ASPJ system. The cost of hardware necessary to bring the test aircraft to production representative status is estimated at $17 - 20 million. This represents a significant investment in a program we have terminated for affordability. In a declining budget environment, this is not a prudent investment of limited DoD resources.

AMRAAM

Question: General Jaquish, the Air Force has halted all acceptance of production AMRAAM missiles from the two manufacturers, citing continued failures of the missiles in the Captive Carry Flight Testing program.

Would you please inform the committee of the current status production acceptance?

Answer: The Air Force suspension of AMRAAM acceptance is still in place. Criteria for resumption of production acceptance are currently being worked by the Program Director. At this time, we anticipate resumption of deliveries within the next 30 to 45 days. However, an exact date depends on the adequacy of contractor corrective actions.

Question: General, has the Air Force concluded that all failures in the Captive Carry Flight Test program were caused by "quality control" problems by the manufacturers?

Answer: The Captive Carry Program has currently experienced thirteen maintenance events in approximately fourteen hundred hours (as of 25 May 1990) of operational flying. The AMRAAM Joint System Program Office has characterized these thirteen failures as follows:

a. Five events have had quality issues. Four events were clearly quality related: the fuselage crack, wing lock assembled without sufficient locktite, screws backing out in the frequency reference unit, and inadvertent double plating of a ceramic board. A fifth event, a failed data link receiver, is under investigation. Preliminary failure analysis indicates that the bending of a component during assembly resulted in improper contact and subsequent failure.

b. Four events are related to the control section potentiometers. Aggressive investigations are ongoing by both contractors toward finding a suitable potentiometer to withstand the F-15 fuselage environment.

c. One event was related to the testing of the missile by the built-in-test where the missile was in fact good but was reported bad by the test. The test methods are being modified in the missile software to correct these problems.

d. Two events relate to the configuration of missiles being tested. Hardware failures occurred on components which were no longer in the missile design; that is, the design had already changed but the test missiles could not be upgraded immediately without causing severe delays in the test program.

e. The latest event occurring on 21 May 1990 appears to have been caused by the failure of a power hybrid integrated circuit in the control section. No further information is available at this time.

Question: General, has the May 1990 AMRAAM Defense Acquisition Board (DAB) review been postponed? Has a new date been set for the AMRAAM DAB?

Answer: The Defense Acquisition Board (DAB) reviewed the AMRAAM program on 11 April 1990 to assess the program status and formulate a recommendation on the Nunn-McCurdy Congressional certification. In his ensuing 13 April 1990 Acquisition Decision Memorandum, the Under Secretary of Defense for Acquisition directed submission of a formal corrective action and reliability improvement plan. The Chairman, Conventional Systems Committee will form a DOD group to review the plan and provide recommendations to the Defense Acquisition Executive (DAE). After the review of this plan, a new DAB IIIB date will be considered.

Question: General, because of reliability problems, do you anticipate another year of low rate production for AMRAAM? What is the appropriate number and cost of missiles for another year of low rate production?

Answer: We fully expect to demonstrate AMRAAM's required 200 hour MTBM in ample time to meet a Lot V full go-ahead decision for full rate production before mid fiscal year 1991. The fiscal year 1990 missile quantity of 900 (Lot IV) is considered a low rate production quantity. The fiscal year 1991 missiles (Lot V), at the higher quantity (1250 Air Force, 550 Navy), would be a full rate production buy.

We are pleased with AMRAAM's improved reliability over the last few months. Stage 3 testing of the AMRAAM Captive Carry Reliability Program (CCRP) has currently accumulated about 1480 captive flight hours with 13 maintenance events. Based on the last 1150 hours of captive carry testing, the MTBM is 193 hours which approaches the 200 hour full rate production requirement. Follow-on captive carry evaluations, employing 42 missiles and totaling nearly 7,000 flight hours, on F-15, F-16, and F-18 aircraft will be conducted from mid-1990 thr~~ough 1992~~ as planned. The outcomes of these CCRPs will evaluate the continuing overall system reliability growth. We are very confident that AMRAAM's mature 450 hour MTBM will be demonstrated before the required time (two years after Initial Operational Capability is declared).

ADVANCED TACTICAL FIGHTER DEVELOPMENT

Question: General Jaquish, would the risk in the ATF program be reduced, especially in the avionics area, if the current Demonstration/Validation phase was extended -- after a winning contractor team was chosen as scheduled -- to permit more risk reduction technology development and flight testing?

Answer: Not significantly. We extended the Demonstration/Validation (Dem/Val) program by six months to assure the contractors had sufficient time for risk reduction and data analysis. In Dem/Val the contractors built a combination of advanced development and brassboard hardware to verify the concept of integrated avionics. Additionally, the contractors produced over a million lines of software. By the conclusion of Dem/Val, the ATF contractors will have reached the point of diminishing returns in terms of benefits derived from the Dem/Val program. The next step is to design and build the full-scale development avionics configuration.

Question: I understand the ATF program requires additional funding but no reprogramming has yet been transmitted. If this request is so important to the ATF program, why has this continuing delay occurred?

Answer: The reprogramming is important to fulfill government contractual obligations. The plan is to have the reprogramming request approved by the end of June to meet July funding requirements. Unusual FY 1990 funding actions in the Department of Defense have caused unanticipated delays in forwarding the request to Congress. These delays do not diminish the importance of the reprogramming request and do not change the government contractual obligations.

CLOSE AIR SUPPORT LOGISTICS

Question: General Jaquish, the Office of the Secretary of Defense and the Air Force agreed last year to upgrade a limited number of F-16 and A-10 aircraft as an interim improvement in close air support capabilities.

Now that the armor threat in NATO Europe has changed so drastically, why is this improvement program necessary?

Answer: The Air Force is fully committed to providing Close Air Support (CAS) and Battlefield Air Interdiction (BAI) missions where and when needed by the Army and the Joint Force Commander. The requirement for CAS and BAI is not limited to the European battlefield, nor is it restricted merely to anti-armor operations.

In contingencies throughout the world, there will always be requirements for fighter aircraft flying in support of ground operations. These fighter aircraft must have the avionics to be fully interoperable with the Army. They must also have the appropriate sensors to detect, and the appropriate weaponry to destroy a wide range of target sets. All of the modifications planned for the A-10, OA-10, and F-16 offer significant improvements in those aircraft's ability to conduct CAS/BAI missions throughout a wide spectrum of potential conflicts.

The A-10 and OA-10 currently have four upgrades planned. These are the Low Altitude Safety and Targeting Engagement (LASTE) modification which will improve target attack effectiveness with a ground collision avoidance system and a computed weapons delivery capability. Automatic Target Handoff Systems (ATHS) are also planned for the A-10 and OA-10, as are Global Positioning Systems (GPS) and Have Sync VHF radios.

The modifications for the F-16C/D Block 30 are designed specifically to improve combat effectiveness and survivability and include ATHS, GPU-5/A 30mm gun pod certification, Pave Penny laser spot tracker, Digital Terrain System (DTS), and Halon fire extinguishers in the aircraft dry bay areas.

Question: What is the status of Air Force plans to develop a new close air support aircraft for the future? Do the reduced threat and declining defense budgets make this new program less than urgent and affordable?

Answer: In September, 1989 the Defense Acquisition Board (DAB) approved a Mission Need Statement (MNS) for a follow-on Close Air Support (CAS) and Battlefield Air Interdiction (BAI) aircraft. They directed the Air Force to initiate alternative assessment studies that would lead to a DAB decision for this aircraft. A Cost and Operational Effectiveness Analysis (COEA) is being prepared that compares several in-service and in-production aircraft to include the A-10, F-16, A-7, F/A-18, and AV-8. The framework and objectives of the COEA were directed by OSD and are nearing completion. It is expected that the DAB will meet to review the conclusions this summer. A DAB decision to proceed will be followed with a funding request in the FY 1992 President's Budget.

The Air Force has recommended that a production F-16, called the A-16, be specifically missionized for CAS/BAI and be selected as the follow-on to the A-10. This aircraft is one of the variants under review by the DAB. In light of reduced budgets, it is even more cost effective to select the A-16 over other variants. F-16 production is planned for several more years, and by simply making some configuration changes to these in-production aircraft, a significant cost savings will occur over all other options. The need for CAS/BAI support will remain for the foreseeable future, and although the quantities of targets may reduce on the battlefield, the quality of threats will steadily improve as technology advances. This increasing lethality and availability of threat systems throughout the world, not just in Europe, makes it even more important that A-16s be procured to fulfill the CAS/BAI requirement because the A-10's survivability will remain in question.

QUESTIONS SUBMITTED TO GENERAL JAQUISH BY SENATOR BYRD

ADVANCED TACTICAL FIGHTER

Question: The Air Force operates about 65 percent of U.S. tactical aircraft, including F-15 and F-16 fighters and various attack planes. The Air Force is developing the Advanced Tactical Fighter to replace current F-15 fighters in the late 1990s. However, budgetary problems and changing threat environments have called into question the need for this next-generation aircraft, whose development began in the early 1980's to keep abreast of Soviet aviation advances. The 750-plane Advanced Tactical Fighter aircraft program is estimated to cost about $67 billion, or $90 million per plane, counting development and production costs, while the Navy's 620-plane Advanced Tactical Aircraft program is estimated to cost about $52 billion, or $83.8 million per plane. Why is the Advanced Tactical Fighter expected to cost more than the Navy's Advanced Tactical Fighter Aircraft? Please discuss the major cost elements driving up the price of the Advanced Tactical Fighter and explain why these factors do not apply to the Advanced Tactical Aircraft, which will be carrier-based aircraft procured in smaller quantities than the Air Force's Advanced Tactical Fighter.

Answer: The baseline ATA program has a capped development program that capitalizes on existing engines and avionic technologies to bring the aircraft on line as soon as possible to fill shortfalls in Navy attack aircraft. This acquisition strategy will reduce baseline aircraft cost, but forces block upgrades which are not reflected in the bottom line cost. The ATF program is developing a totally new aircraft from top to bottom, to counter threats projected into the next century. The ATF will incorporate engines with supercruise capability and an integrated avionics architecture, both designed to complement the low observable aspects of the fighter. These capabilities increase up-front costs, but minimize total life cycle costs. Another important factor is inflation. The ATF will enter production almost ten years after the ATA. Therefore, comparisons made with actual dollars do not consider the effects from ten years of inflation. The real bottom line shows that the ATF delivers a generational increase in capability at an affordable cost.

QUESTION: How do you currently assess the prospects for continued Soviet development and production of fighter/attack planes during the 1990's? Please provide data on trends in Soviet military aviation in the 1970-1990 period in both quantitative and qualitative terms.

ANSWER: [Deleted]

QUESTION SUBMITTED TO GENERAL JAQUISH BY SENATOR D'AMATO

ATA PROCUREMENT

Question: Will the Air Force reconsider the decision to terminate the F-15E buy in the wake of Secretary Cheney's decision to delay ATA procurement for at least 8 years? If not, why not.

Answer: No. Declining force structure obviates the need for any additional F-15Es due to the ATA slip. The current plan for F-111s and F-15Es gives the USAF its required long-range interdiction capability, until the ATA is available.

QUESTION SUBMITTED TO GENERAL JACQUISH BY SENATOR SPECTER

REDUCTION IN EUROPEAN TROOPS LEVELS

Question: Subsequent to the submittal of your fiscal year 1991 budget request, the Administration proposed a reduction in European troop levels from 275,000 to 225,000.

Have you considered reducing your planned fiscal year 1991 procurements of tactical aircraft, e.g. the F-16D and F-15E, to reflect a reduced Air Force presence in Europe? If so, what quantities would you recommend?

Answer: The Department of Defense is currently re-examining force structure requirements in light of changing world events. However, Conventional Forces Europe (CFE) negotiations are still underway, and our review of total force structure requirements and modernization options continues. Until these efforts are complete, it would be premature to speculate what reductions in new fighter procurement might be considered.

SUBCOMMITTEE RECESS

Senator INOUYE. We will stand in recess until Thursday, May 10. At that time, we will convene at 10 o'clock to discuss land warfare.

[Whereupon, at 11:50 a.m., Tuesday, May 8, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1991

THURSDAY, MAY 10, 1990

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10 a.m., in room SD-192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Stevens, D'Amato, and Specter.

DEPARTMENT OF DEFENSE

LAND WARFARE

STATEMENT OF MAJ. GEN. JEROME H. GRANRUD, USA, ASSISTANT DEPUTY CHIEF OF STAFF FOR OPERATIONS AND PLANS, FORCE DEVELOPMENT, OFFICE OF THE CHIEF OF STAFF, U.S. ARMY

OPENING REMARKS OF SENATOR INOUYE

Senator INOUYE. This morning the subcommittee continues its consideration of the fiscal year 1991 budget as we hear from senior military officers of the Department of the Army and the Marine Corps on the subject of land warfare.

After 40 years of a strong NATO alliance and a U.S. land warfare doctrine focused on conventional conflict with the Warsaw Pact countries, the threat to our national security interest in the region has significantly decreased. In a matter of months the nations of Eastern Europe have thrown off communism and are struggling to become democracies, East and West Germany are in the process of reunification and negotiations for reductions in conventional forces are expected to change the composition of U.S. and Soviet forces in Eastern Europe.

As a result of these events, the Army has already announced plans to reduce its force structure by five divisions—three Active and two Reserve—by 1995. This will result in a reduction of 135,000 active duty Army personnel over the next 5 years, with a resulting end-strength of 629,000.

Despite the planned changes in Army force structure, Marine Corps force structure will remain essentially the same. However, as common roles and missions are evaluated in light of budgetary constraints, additional force structure adjustments may become necessary.

REEVALUATION OF LAND WARFARE DOCTRINE

The profound changes in central Europe, combined with a decline in national security resources are causing us to reevaluate traditional assumptions of land warfare doctrine. This committee is aware of the debate over future roles and missions currently taking place between the Army and Marine Corps and is interested in hearing how these changes are reflected in Army and Marine Corps concepts for warfare doctrine of the future.

We are particularly interested in how this changing strategy and doctrine will drive additional force structure changes, operational requirements, and development and acquisition of new equipment.

One of the most important tasks this subcommittee will undertake in its review of the budget request for fiscal year 1991 will be evaluate weapon system priorities in light of the changing threat, force structure reductions, and declining defense resources. In addition, as force structure agreements are negotiated, this subcommittee will also be reviewing the inventory objectives of mission-essential equipment.

INTRODUCTION OF WITNESSES

This morning the subcommittee is pleased to welcome Maj. Gen. Jerome H. Granrud, Assistant Deputy Chief of Staff for Operations and Plans, Force Development; Maj. Gen. James C. Cercy, Deputy for Systems Management, Office of the Assistant Secretary of the Army for Research Development and Acquisition; Lt. Gen. William Etnyre, Commanding General of the Marine Corps Combat Development Command; and Lt. Gen. John R. Dailey, Commanding General of the Marine Corps Research Development and Acquisition Command.

Gentlemen, we have received your prepared statements and they are made a part of the record. I thank you for coming this morning and we look forward to your comments. You may proceed as you wish.

May I first call on General Granrud.

STATEMENT HIGHLIGHTED

General GRANRUD. Good morning, Mr. Chairman.

Thank you very much, members of the committee, it is an honor for me to be here this morning to present to you the Army's current plan for modernization.

The Army does have a strategy to manage the transition and the changes that are taking place. And I want to very quickly, using some slides to highlight some key points, run through that for you. It mirrors in most cases the information that you have in the more extensive testimony.

[CLERK'S NOTE.—The slides referred to appear in General Granrud's prepared statement following his oral presentation.]

General GRANRUD. I would underscore the point that, because of the changes, the Army has over the past months developed a strategy for change, both in its force structure and modernization efforts to support that. That is what I would like to talk about today.

May I have the next slide, please?

ARMY AS STRATEGIC FORCE

First, I would like to place in context the Army's role for the United States. We believe that the Army will continue to be a strategic force, clearly smaller, but sized, equipped, and properly trained for its global commitments. Three categories of force requirements will be needed for the future. Forward-deployed forces, although smaller, will still be required to meet the land commitments and to provide forward presence for deterrent purposes. It provides additional stability.

Reinforcing that will be forces here in the continental United States which will allow for increased capability, should that become necessary. Additionally, we believe that there is a growing requirement for the Army to be competent across the spectrum of conflict in a series of contingency operations that the United States may face.

We must be able to support a variety of missions across the operational continuum: war at its highest level, conflict, and certainly peacetime competition.

ARMY IN TRANSITION

The next slide highlights the recognition that the Army is, in fact, in transition and must go from what it has been doing for many years to something which is more appropriate for the future.

There are two main drivers: First, of course, the changing threat and our analysis of how that will affect our requirements and our missions. The second is the resources available to the Army, and how we can best use those resources to carry out the mission.

AIRLAND BATTLE

I would highlight that the Army is focused on a sound doctrine called AirLand Battle, which is under review, but we believe will be sufficient and adequate to carry us through the various missions and tasks that we see through the year 2000. Our doctrines are in process of evolution in order to meet the changed requirements, but certainly provides a robust and competent way to structure our forces and employ them.

There are three broad categories we will cover today. First, force structure, which you have already referred to in your earlier opening statement; second, how we are supporting the modernization of that force; and third, how we are looking to the future through our technology-base investments.

CHANGING STRATEGY

Our current strategy, the one we have today, recognizes the instability of the Eastern Bloc and emergence of developing nations. But it also understands that the strategy as it is changing has to have options for reversibility, if current Soviet trends, which clearly have not changed, failed to continue.

U.S. ARMY—THREAT 1990–2000

I would focus very quickly on the one point that I made about the threat. Clearly, the threat has changed. The United States Army has for many years structured its forces and ensured that superpower competition with the Soviet Union was clearly dominant in the way we structured and put our force together.

When we look at the Soviets today—and you have already outlined in many of the key findings—they are clearly getting smaller. There is no question about that. But we believe that a competent Army, one which will continue in superpower competition, will have to modernize, and we see evidence that the Soviets are doing that.

They will still remain the largest post-CFE military in the world. We believe that they will continue to export arms for hard cash and, therefore, the proliferation of Soviet weapons in developing nations will continue to grow. An important point is that regardless of where we move, the Soviet Union for many years will still be the one nation capable of destroying the United States and, therefore, is a risk we cannot afford to take lightly—less likely we believe, as you have pointed out, but high risk.

At the same time through the proliferation of modern weapons throughout the emerging nations, there are increasing regional instabilities. And they are not just small forces. The high-tech capabilities we find in many of the developing nations are very, very competent, midthreat kind of capabilities.

And so, the Army must take a look at how to work through that problem, how it restructures to ensure that it meets its NATO commitments while at the same time ensuring that it has global contingency competency.

FORCE STRUCTURE

You are all familiar with the Army as it is structured today. We have 5 corps and 28 divisions; 12 of those are heavy in the Active component, 4 in the Guard. We have 6 AC light divisions, 1 light division in the Guard and 5 infantry divisions in the National Guard for a 28-division total, structured to perform missions in which deterrence of the Soviet Union and the Warsaw was clearly a primary task. We believe that it had significant—was a significant factor for the stability and the changes that have occurred in Europe.

Forward-deployed forces in Europe, Korea, and in some cases in Panama, have been responsive to worldwide contingencies and reflect a trained and ready Army that has just only recently proved itself in Just Cause in Panama.

Nonetheless, that Army has to change due to factors that I mentioned earlier.

Senator **Inouye**. Where will the five divisions come out of? On that slide, the next slide.

General **Granrud**. Let me go to the next slide, sir, and I will make the point to you.

ARMY 1995

This slide shows the Army in 1995. Today you see 5 corps, 28 divisions, and by 1995 4 corps and 23 divisions. If you will take a look in Europe, for example, we currently have two corps and four divisions. Two divisions will come out of Europe, leaving one corps and two divisions. Only one of these divisions will be inactivated.

We are currently in the process or have proposed to take the 2d Armored Division out of Fort Hood and the 9th Infantry Division out of Fort Lewis, WA. So there are the four divisions from the Active force.

There is a proposal in the National Guard to consolidate in the northeast corridor three divisions into one. And so I believe that is how you would tally that up.

We will maintain forces in Korea, less than a division, but clearly a division strength with supporting capabilities; a division in Hawaii and a division in Alaska, plus contingency corps with a heavy reinforcing role; plus our sustaining forces, principally our Reserve component forces here in the continental United States.

This is a combination of heavy and light forces forward which we have, indeed, been transitioning since the early 1980's. With a significant increase in light forces and with decreases in heavy forces, we believe that there will be a significant—or a properly balanced capability, heavy, light, and special operating forces to carry out any missions that will be assigned to us.

We also have a proper mix, we believe, fully integrated between Active and the Reserve, particularly here in the continental United States.

That force as it comes down—and you have mentioned the numbers earlier—by 1995, we believe, will have to take about 135,000 soldiers out of the force, along with reducing units.

I have shown you the numbers. But the point I want to underscore is that this cannot be done without pain and we need to do it in accordance with a plan. We have presented a plan which shows a rampdown of about 35,000 per year, which allows us to do things prudently, to take down both the officer and enlisted force through a series of activities that will allow us not to penalize soldiers and their families, but will allow us to get done what needs to get done without fracturing the force.

So we have a plan. It has been presented for taking the soldiers and the officers out of the force in accordance with our reduced requirements.

Senator INOUYE. When you implement this plan?

General GRANRUD. I beg your pardon?

Senator INOUYE. When will the plan be implemented?

General GRANRUD. We are in the process of implementing the plan as we can at this moment, Senator Inouye. Of course, we have 20,000 that are scheduled to come out of the force in 1990, an additional 20,000 in 1991, which we have programmed. And then we have programed 35,000 for each year for the Active Army in order to meet the goals that you see here.

We believe that achieving that might be very difficult for us to manage and, of course, we are looking for some management tools in the near years in order to give us more flexibility to accomplish this task.

I might point out that this is an army which is a volunteer army. This is not an army like we have taken down in the past. Every soldier and every officer who is in the Army today wants to be there because he signed up to do so. So, it will not be a pleasant task for us to do this, but it is necessary.

MODERNIZATION

Along with the reduction of personnel in the Army we must continue to modernize. It is one of the Chief of Staff's principal imperatives that continuous modernization is required.

Therefore, with the changes in strategy we must have a plan for our modernization, which I have outlined here, showing you that in the short term we are making sure that our contingency forces and this smaller forward-deployed force are properly resourced. In the midterm we are willing to take some risk because of the factors we have already discussed to ensure that the Army in the year 2000, America's Army, is indeed a competent one that can carry out its missions. Additionally, we think it is absolutely vital that we avoid technological surprise on the battlefield.

Therefore, our modernization efforts—and I have outlined the main ones here: our deep attack systems, light helicopter, command and control, armored system modernization, and forward area air defense—we believe are key to the modernization to a potent force in the year 2000. To do that, we must maintain a strong tech base, and we have made commitments to do that.

EFFECT OF ROBUST MODERNIZATION PROGRAM

The next slide, very quickly, shows you the effect of a robust modernization program. Now, I am talking continuing modernization through the 1991 timeframe with a reduced force structure. That will yield the kind of results you see on this slide.

I have taken as one example the maneuver mission area. The Abrams tank, for example, in 1990 you see the mix in fill of requirement between the Active and Reserve forces. By the year 1995 we will have a 100-percent M-1 force of different kinds, of course, because we have different models of M-1. But every organization requiring tanks in the U.S. Army will be fully modernized with M-1 tanks. This is also true for the Bradley providing we are able to continue production for this companion vehicle for the Abrams tank. So you can see that we will have a very robust Active and Reserve force in the maneuver mission area.

AAWS-M, which is replacing the Dragon, will begin fielding in 1994, and so we will have a robust capability for our light forces to replace some of our older systems. As we continue, of course, we will begin filling the light Reserve forces from that. That is one example.

MODERNIZATION OF INTELLIGENCE AND COMMAND AND CONTROL

A second example that I want to show you is the modernization of intelligence and command and control are enhanced in the future because it supports all kinds of contingencies. This shows that through technology and proper management you can take where you had five systems in the past you can reduce them down to a common system which does many more tasks, enables you to do the kind of things shown here reducing the number of vehicles, the number of systems you see on the left side down to a heavy/light mix that you see on the right side. And through that kind of approach to technology we have more robust capability and are able to do things in a lighter and a more efficient manner. So we have placed dollars in this kind of capability as well.

MODERNIZATION OF COMBAT SERVICE SUPPORT

The third area I want to show you to complete these examples is in the combat service support area. Three examples are shown: the light tactical vehicles, medium tactical vehicles, and the heavy tactical vehicles, which we have neglected somewhat in the past and our fleets are aging very badly. But for the future we have committed significant resources to make this a robust capability because it supports all kinds of contingencies and is not specific to any one kind of combat. It supports them all. So you can see that both our Active and Reserve forces over the next 4 or 5 years will have enhanced capability, and we believe this is absolutely vital.

MODERNIZATION RESOURCES

We asked RAND to give us an independent analysis of whether we had put our modernization resources in the right place. They took a look and assessed the Army program versus the missions required of the Army to determine whether we had applied resources to help us to properly carry out the missions in Europe and for a medium, midintensity in Korea and other places, to include low-intensity and military assistance. Their findings are shown here. The distribution of capabilities supports the kind of programs that you see here.

Their analysis was that we had properly balanced capability for all mission areas. We had put our resources in the right place to help us structure the force in the right way to carry out the missions assigned to us.

RAND ANALYSIS OF ARMY PROGRAM

It is always well to remember that you just do not have people and equipment. You must put them together in efficient combinations. The Army must balance the program among force structure, modernization, but more importantly the Army must be ready, it must be trained, and must have good leaders. Therefore, we have applied the proper resources to ensure that readiness and we have to make sure that the sustainment capability of the Army extends beyond just 2 or 3 days of war. We have placed appropriate resources in that category.

SUMMARY

So, let me just give you a quick summary, Mr. Chairman. Smaller, balanced, lethal, and deployable reflects, we believe, through a strategy, the change in the threat and the fiscal realities. We believe we have made prudent decisions. We think that it is very important to prevent technological surprise, to develop the techniques to do so and to field competent systems that will overmatch the enemy, as we see it, in the year 2000 at least. We believe that the balance across the various missions is absolutely vital to ensure that we have a balanced, modern, and competent force. So that, sir, is a very quick wrapup of the strategy that we have that we would present to you.

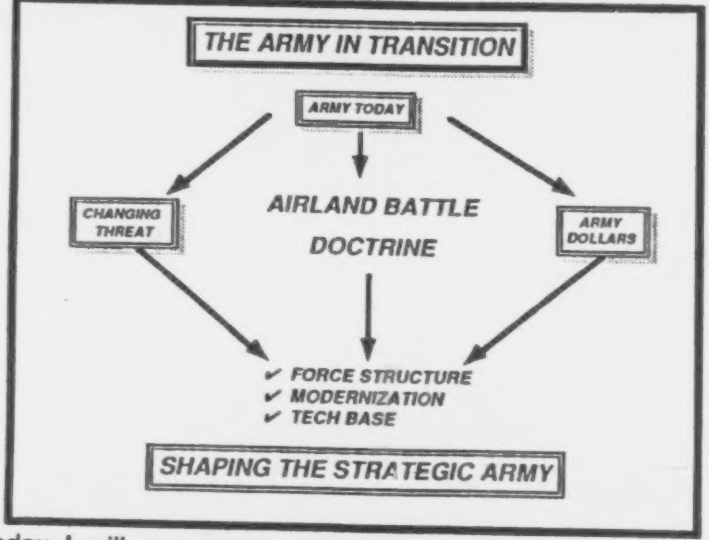
Senator **Inouye**. Thank you, General Granrud.

[The statement follows:]

STATEMENT OF MAJ. GEN. JEROME H. GRANRUD

PURPOSE:

Mr. Chairman and members of the Committee, I am pleased to have the opportunity to address this forum and to outline Army modernization and force structure initiatives to meet worldwide commitments in the 1990s and beyond.



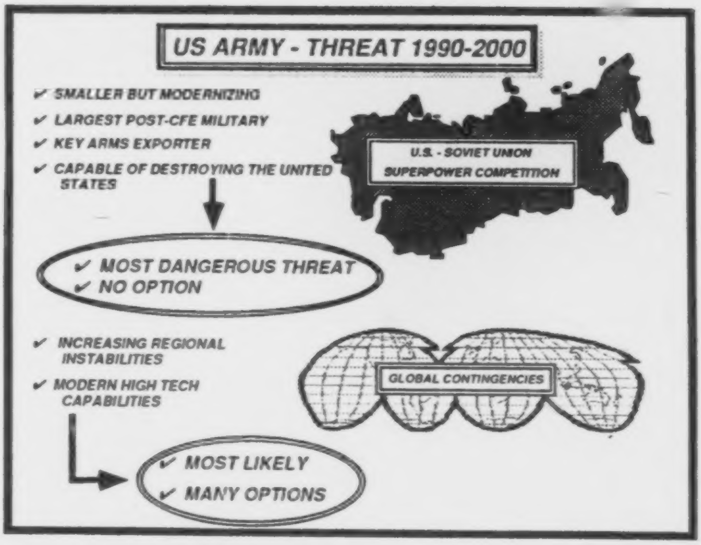
Today I will present an Army strategy for restructuring and modernizing the force that fully recognizes the relaxation of tensions between East and West and national fiscal priorities.

The strategy recognizes the instability in the Eastern Bloc, and the emergence of developing nations which could threaten our vital interests and military options, many with high technology weapons, some with the capability for mass destruction.

Change has occurred rapidly and in unexpected areas. Any strategy for the future must recognize that such change is unpredictable and reversible. As a result, our strategy contains prudent options for reversibility in the event current trends fail to continue.

The Army leadership readily accepts its responsibility to provide a coherent strategy to guide the Army through the decade and into the next century. Our force structure and modernization plans, beginning with the FY91 budget, provide that path to the future, reflecting well thought out strategies which will field modern, balanced forces to meet a variety of contingencies. Our strategy will not be implemented overnight but will be evolutionary, timely and systematic, responsibly addressing the needs of the nation for capable land forces.

MILITARY SITUATION:


US ARMY - THREAT 1990-2000
✓ SMALLER BUT MODERNIZING
✓ LARGEST POST-CFE MILITARY
✓ KEY ARMS EXPORTER
✓ CAPABLE OF DESTROYING THE UNITED STATES
U.S. - SOVIET UNION SUPERPOWER COMPETITION
✓ MOST DANGEROUS THREAT
✓ NO OPTION
✓ INCREASING REGIONAL INSTABILITIES
✓ MODERN HIGH TECH CAPABILITIES
GLOBAL CONTINGENCIES
✓ MOST LIKELY
✓ MANY OPTIONS

Nowhere is change occurring faster than in the Soviet Union and Eastern Europe. Soviet economic and social problems have forced Soviet leadership to adopt a less confrontational attitude toward the West and the concurrent releasing of their grip on Eastern Bloc nations. These changes are positive, nevertheless, our military must be postured to meet potential adversary's long-term as well as existing capabilities. The Soviet Union remains the major threat by which we must measure our capability.

As U.S. and Soviet forces consider proportional troop reductions, developing nations have undergone dramatic qualitative and quantitative improvement of their military forces. Many possess large stocks of modern weapons that can influence regional balances of power.

A dozen or more have over 1,000 main battle tanks, and a similar number possess ballistic missiles or have access to technologies for their development. Many have ground combat systems that match US capabilities potentially constraining US influence and power projection capabilities. In the past, these nations posed little threat to US interests. In the multi-polar world of the 1990s, the picture is changing rapidly.

Thus far, the Soviets appear to be carrying out announced reductions, but they continue to modernize and restructure remaining forces as they eliminate obsolete equipment and excessive troop strength. However, research and development efforts continue as the Soviets exploit internal and Western technologies to qualitatively upgrade their forces. Current Soviet force structure initiatives are providing a more balanced force with less emphasis on tank forces. Regardless of these initiatives, tank production for 1995 is projected at 800 vehicles.

Soviet forces in the 1990s will be equipped with the T-80

SOVIET MILITARY MODERNIZATION

SYSTEMS:

- CONTINUE R & D
- EXPLOIT WESTERN TECHNOLOGY
- FOCUS ON FEWER, BETTER SYSTEMS
- REMAIN COMPETITIVE IN ARMS SALES

EMPHASIS ON QUALITY

FORCES:

- BETTER SOLDIERS - HIGHER STANDARDS
- BETTER TRAINING - MODERN DEVICES/METHODS
- BETTER FORCE STRUCTURE - MORE BALANCED

MILITARY PRODUCTION:

- STREAMLINE PROD/TECH BASE
- REDUCE PROD RATES
- INCREASE PROD EFFICIENCES (EXPLOIT WESTERN PROD TECHNIQUES)

YEAR	1988	1989	1990	1995
TANK PROD	3500	1700	1400	800

tank, the BMP-2 infantry fighting vehicle, and other modern items of equipment such as the HAVOC and HOKUM helicopters; Flanker and Fulcrum attack aircraft; the SA-11 and SA-12 air defense systems; and accurate, long range artillery, rocket, and missile systems. In addition, the structure and design of Soviet units are changing, to increase mobility and firepower for both offensive and defensive operations.

ARMY MISSIONS:

As the global situation evolves with the powerful but diminishing influence of the Soviet Union, the spread of new technologies and arms transfers will create new threats to US interests and new challenges for our Army. Army missions may change, but only in degree.

ARMY MISSIONS

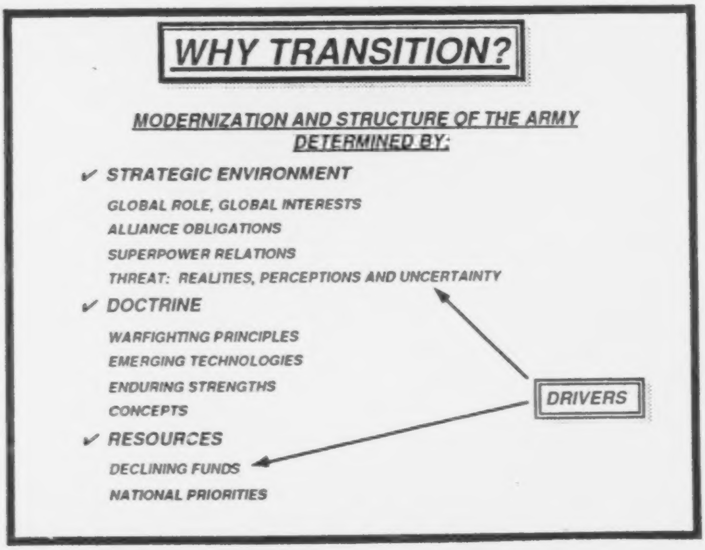
- ✓ FORWARD DEPLOYMENT, FORWARD DEFENSE
- ✓ PROJECTION OF LAND FORCES / CONTINGENCY OPERATIONS
- ✓ PEACETIME & WARTIME REINFORCEMENT
- ✓ EVACUATION/PROTECTION OF U. S. CITIZENS
- ✓ ASSISTANCE TO FRIENDLY NATIONS
- ✓ SUPPORT NATION BUILDING AND CIVIL ACTIONS
- ✓ SUPPORT COUNTER-NARCOTICS

The United States will continue to rely on its Strategic Army to fulfill the key ground force role in support of the national military strategy. Our forces will be modernized and structured accordingly. Forward deployed forces capable of protecting US interests in critical regions will continue to be required, but to a lesser degree.

Alliance strategies may gradually change from reliance on forward deployed forces to reliance on rapid reinforcement by modernized forces with the lethality and versatility to defeat any powerful adversary. Commensurate with the increasing capabilities of developing nations in regions vital to US interests, there is an increasing need for a mix of contingency forces; light, heavy, and special operations forces, with forcible entry capabilities.

Increased emphasis is being placed on forces for regional peacekeeping, security, and nation building assistance to allies and friends around the world. Counter-narcotics missions will also provide a unique, everyday test of key Army programs.

ARMY IN TRANSITION:



WHY TRANSITION?

MODERNIZATION AND STRUCTURE OF THE ARMY DETERMINED BY:

- ✓ STRATEGIC ENVIRONMENT
  - GLOBAL ROLE, GLOBAL INTERESTS
  - ALLIANCE OBLIGATIONS
  - SUPERPOWER RELATIONS
  - THREAT: REALITIES, PERCEPTIONS AND UNCERTAINTY
- ✓ DOCTRINE
  - WARFIGHTING PRINCIPLES
  - EMERGING TECHNOLOGIES
  - ENDURING STRENGTHS
  - CONCEPTS
- ✓ RESOURCES
  - DECLINING FUNDS
  - NATIONAL PRIORITIES

Army modernization and force structure initiatives for the 1990s and beyond, represented in the FY91 budget, clearly respond to the changing global environment, evolving joint and Army doctrine and concepts, and the demands of our national economy.

These initiatives permit us to enter the decade ahead with a smaller, but modernized force, prepared for the challenges while at the same time protecting against technological surprise in the next century. Some risk is to be anticipated, but these risks are being carefully measured.

THE STRATEGY:

The strategy has three components:

First, structure the force for forward deployment, contingency, reinforcing, and sustaining missions with a proper balance of light, heavy, and special operations forces capable of operations in a variety of regional scenarios.

Second, modernize the force for the 1990s and beyond within budgetary constraints. As resources decline, it will be necessary to maintain a strong tech base to prevent technological surprise. In some instances, tech data packages will have to be produced along with limited production and fielding to provide additional risk reduction and deterrent capability. This will entail hard choices, eliminating some evolutionary programs and system improvements, and accepting some near term risk commensurate with new perceptions of the threat. Sound programs, based on prudent consideration of the threat and resource constraints, will provide the United States essential capabilities needed to meet or exceed potential enemy capabilities and will protect the force from enemy modernization initiatives and technological surprise.

Third, preserve investment in the tech base to hedge against revolutionary technological improvement by a potential enemy or those who would transfer these technologies to hostile nations.

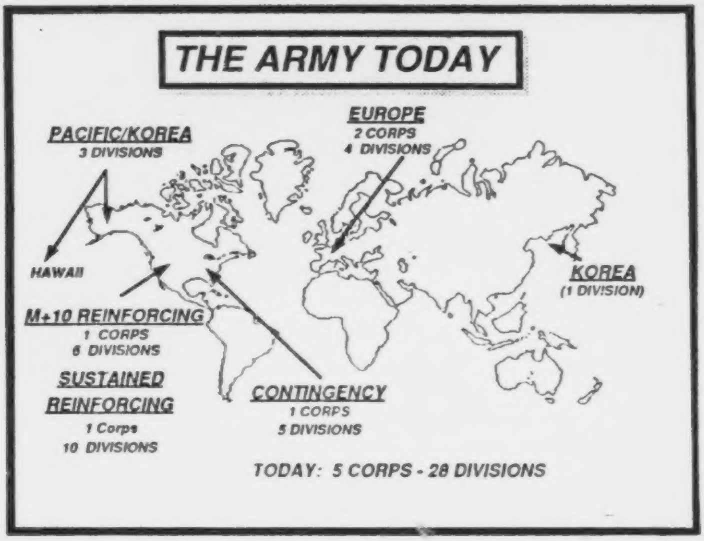
In essence, our strategy strikes a calculated balance between current force structure and modernization needs and investment in the future.

Our strategy will also require the Army to train smarter. Whether in the field or in the classroom, increased use will be made of simulators to provide the Total Army enhanced proficiency. This may require the Army to spend additional dollars in the near-term on training devices, simulators, and simulations but will result in more effective and efficient training across the board.

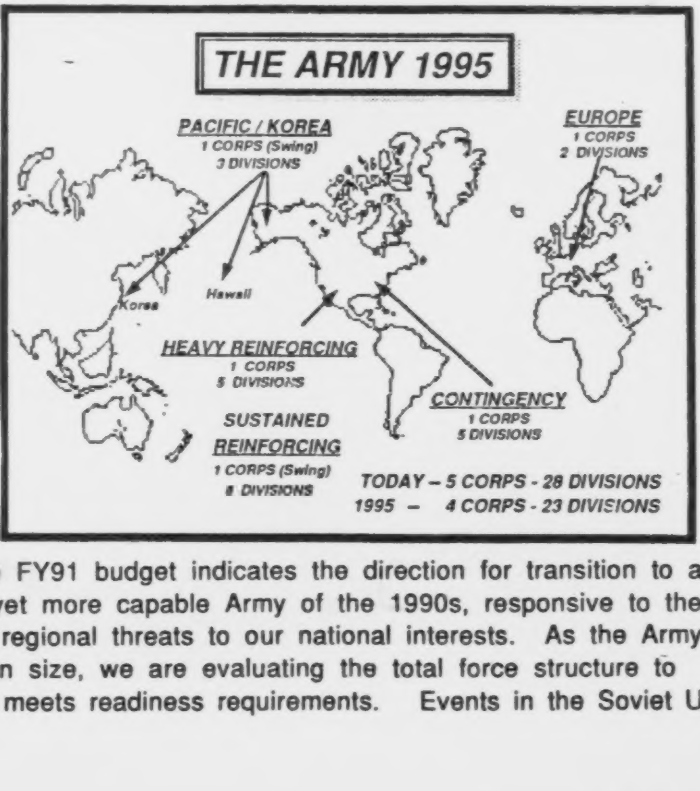
ARMY FORCE STRUCTURE:

The Army of the mid-nineties will field an appropriate mix of heavy, light and special operations forces designed to fulfill Alliance obligations in response to the changing threats and conventional arms reductions in the NATO Central region. These forces will also be more responsive to the greater probability of unanticipated conflict worldwide.

Today's Army, with 5 Corps and 28 divisions, is a quality force. It was structured to perform missions in which deterrence of the Soviet and Warsaw Pact threats was clearly a primary task. This powerful Army and its crucial role in NATO affairs deserves significant credit for the stability Europe has enjoyed for the past 45 years, and for the rapid changes in Europe today.


THE ARMY TODAY
PACIFIC/KOREA
3 DIVISIONS
EUROPE
2 CORPS
4 DIVISIONS
HAWAII
KOREA
(1 DIVISION)
M+10 REINFORCING
1 CORPS
6 DIVISIONS
SUSTAINED REINFORCING
1 Corps
10 DIVISIONS
CONTINGENCY
1 CORPS
5 DIVISIONS
TODAY: 5 CORPS - 28 DIVISIONS

The Army of the mid-nineties, with about 4 corps and 23 divisions, will reflect the increased warning of the threat of war in Europe resulting from the fragmentation of the Warsaw Pact but will also respond to the need for versatile, lethal, and rapidly deployable forces; ready on short notice to respond to global contingencies. Residual forward deployed forces will retain the necessary combat, command and control, and intelligence assets necessary to provide credible deterrence, early warning, and the reception of reinforcing forces into the theater should deterrence fail.


THE ARMY 1995
PACIFIC / KOREA
1 CORPS (Swing)
3 DIVISIONS
EUROPE
1 CORPS
2 DIVISIONS
Korea
Hawaii
HEAVY REINFORCING
1 CORPS
5 DIVISIONS
CONTINGENCY
1 CORPS
5 DIVISIONS
SUSTAINED REINFORCING
1 CORPS (Swing)
8 DIVISIONS
TODAY – 5 CORPS - 28 DIVISIONS
1995 – 4 CORPS - 23 DIVISIONS

The FY91 budget indicates the direction for transition to a smaller, yet more capable Army of the 1990s, responsive to the full range of regional threats to our national interests. As the Army reduces in size, we are evaluating the total force structure to ensure it meets readiness requirements. Events in the Soviet Union and the nations of Eastern Bloc are creating opportunities for prudent restructuring, ever watchful for a reverse in current trends as Soviet "restructuring" continues.

The US Army force of the 1990s will have a balance of forces; appropriately distributed in the active and reserve components; with continuing reliance on the "round-out" concept in the active Army divisions. In the future we must rely on the reserve components more for major conflict resolution. These reserve units will also require modernized equipment to meet their reinforcing and sustaining missions. In part, this need will be filled by the redistribution of equipment from inactivated units.

The restructured Army of the 1990s, reflecting actions that actually began in the 1980s with the fielding of the light division and the increase in the number of SOF groups, will reflect a shift to a more flexible mix of forces with a significant lightening of the total force. Heavy divisions will show a 19% decrease in the number of divisions while light divisions show a 300% increase (figure does not include 4 RC infantry divisions). Special Operations Forces have experienced a 50% increase in the number of groups in the total force. These changes are in concert with the declining Soviet threat and the increased global focus of Army planners.

The deactivation of about 3 heavy divisions in the active component and 2 infantry divisions in the reserve component will place increased reliance on light forces. These deactivations increase the ratio of light to heavy forces but the Army will still retain a powerful force of about 15 divisions in the active component. Multi-purpose light divisions will be evident in both the active and reserve components.

Lightening the force will improve deployability to any region. However, a lighter force must contain the lethality and mobility enhancements to respond to increasingly lethal regional scenarios. The Army's modernization strategy is designed to that end.

ARMY MODERNIZATION:

Army equipment is performing well. However, this equipment is aging. To maintain the Army's technological edge, against the Soviets as well as against other regional threats, we must continue to modernize. Our restructuring and modernization plan sets the stage for transition through this decade and the next century. The smaller force must be flexible, deployable and sufficiently lethal, both with nuclear and conventional capability, to meet and defeat all potential threats to vital, national interests. Acquisition efforts of the 1980s provided a legacy of solid programs critical to the ability of the Army to meet regional threats in the 1990s. Completion of this important modernization of key systems is reliant on the FY91 budget which will provide the items to equip a force well structured for the transition to the next century.

INVESTMENT STRATEGY OBJECTIVES

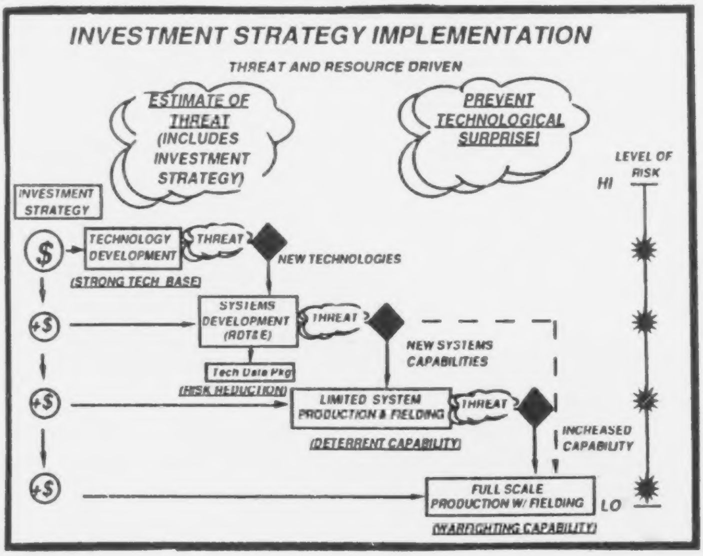
✔ LONG TERM:
- PRECLUDE TECHNOLOGICAL SURPRISE
  - PROCURE: DEEP ATTACK; LH; C3I; ASM; FAADS
- MAINTAIN STRONG TECH BASE

✔ MID TERM:
- ACCEPT SOME RISK FOR LONG TERM MODERNIZATION
- CONTINUE ROBUST R&D
- DEVELOP PROTOTYPES
- MAINTAIN INDUSTRIAL BASE

✔ SHORT TERM:
- PRIORITY TO MODERNIZATION OF CONTINGENCY AND FORWARD DEPLOYED FORCES

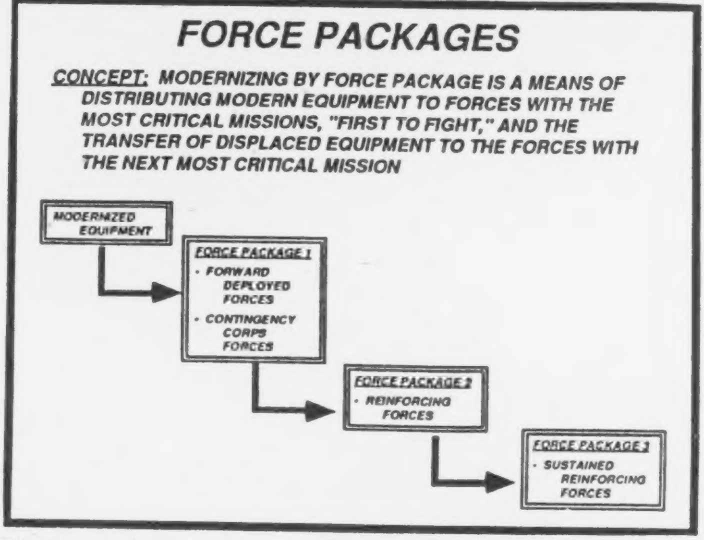
BALANCE AGAINST FULL RANGE OF THREATS & NATION BUILDING

The Army's investment strategy, based a prudent evaluation of the threat and missions for Army forces, focuses on three definitive areas, reflecting short, mid, and long term goals. Tradeoffs in developing the strategy involved some hard choices, including the buy-out of some programs and the concurrent redistribution of modern systems to Force Package 2 and 3 units. The overall goal of the strategy for the short term is to continue to provide modern capable systems with a priority to contingency and forward deployed forces. For the mid term, some risk will be accepted as we continue robust R&D programs, develop tech data packages and prototypes, and maintain an industrial base. These activities will ensure capabilities exist to react responsibly if current trends fail to continue.


INVESTMENT STRATEGY IMPLEMENTATION
THREAT AND RESOURCE DRIVEN
ESTIMATE OF THREAT (INCLUDES INVESTMENT STRATEGY)
PREVENT TECHNOLOGICAL SURPRISE!
INVESTMENT STRATEGY
LEVEL OF RISK
HI
$
TECHNOLOGY DEVELOPMENT
THREAT
NEW TECHNOLOGIES
(STRONG TECH BASE)
+$
SYSTEMS DEVELOPMENT (RDT&E)
THREAT
NEW SYSTEMS CAPABILITIES
Tech Data Pkg
(RISK REDUCTION)
+$
LIMITED SYSTEM PRODUCTION & FIELDING
THREAT
(DETERRENT CAPABILITY)
INCREASED CAPABILITY
+$
FULL SCALE PRODUCTION W/ FIELDING
(WARFIGHTING CAPABILITY)
LO

The Army's long-term goal is to prevent technological surprise by maintaining a strong tech base and procuring new systems needed to respond to the evolving threat.

The following mission area assessments provide a view of this strategy at work. Longer term focus and prioritization is toward those systems providing the most effective use of limited forces on the low force density but high technology, battlefields of the future.



FORCE PACKAGES

CONCEPT: MODERNIZING BY FORCE PACKAGE IS A MEANS OF DISTRIBUTING MODERN EQUIPMENT TO FORCES WITH THE MOST CRITICAL MISSIONS, "FIRST TO FIGHT," AND THE TRANSFER OF DISPLACED EQUIPMENT TO THE FORCES WITH THE NEXT MOST CRITICAL MISSION

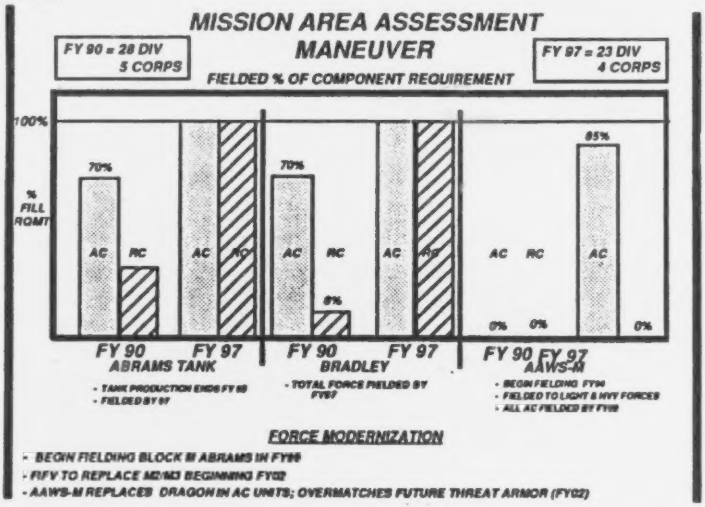
MODERNIZED EQUIPMENT

FORCE PACKAGE 1
- FORWARD DEPLOYED FORCES
- CONTINGENCY CORPS FORCES

FORCE PACKAGE 2
- REINFORCING FORCES

FORCE PACKAGE 3
- SUSTAINED REINFORCING FORCES

The Army has in the past procured modernized equipment in sets, or force packages, to ensure that units that will be the "first to fight" are equipped with our most capable modern equipment first. Force package 1 includes our forward deployed and contingency forces. Force Package 2 includes our reinforcing forces, and force package 3, consisting primarily of reserve component units, is our sustaining/reinforcement forces. Consistent with current plans to reduce the force, Force Package 3 units will have significantly modernized equipment and systems by the mid-nineties, including the M-1 tank.



MISSION AREA ASSESSMENT MANEUVER

FY 90 = 28 DIV 5 CORPS

FY 97 = 23 DIV 4 CORPS

FIELDED % OF COMPONENT REQUIREMENT

- TANK PRODUCTION ENDS FY 89
- FIELDED BY 97

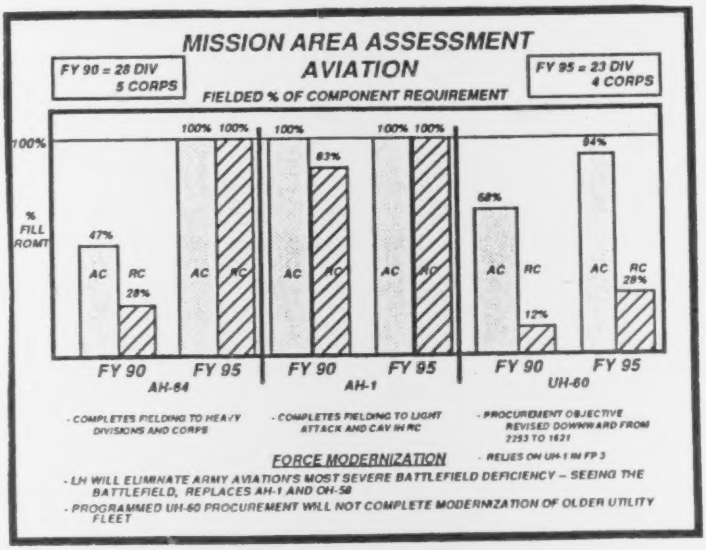
- TOTAL FORCE FIELDED BY FY97

- BEGIN FIELDING FY94
- FIELDED TO LIGHT & HVY FORCES
- ALL AC FIELDED BY FY99

FORCE MODERNIZATION

- BEGIN FIELDING BLOCK III ABRAMS IN FY99
- FIFV TO REPLACE M2/M3 BEGINNING FY02
- AAWS-M REPLACES DRAGON IN AC UNITS; OVERMATCHES FUTURE THREAT ARMOR (FY02)

With the reduction of requirements caused by the reducing size of the force, production of the Abrams and Bradley will be complete by FY93. In keeping with our strategy, we have terminated the tank program and are recommending that tank production cease after the FY91 procurement. We will begin the new Block III tank production in FY97, fielding the first improved tanks in FY99. Reductions in force structure have in turn reduced requirements for the Bradley and will allow the Army to provide the Bradley to all Active and Reserve component units by the mid-nineties. Fielding of the Advanced Anti-tank Weapons System-Medium (AAWS-M) will begin in FY94 to both heavy and light forces. Importantly, this will provide light forces with a significantly improved anti-armor capability.


MISSION AREA ASSESSMENT
AVIATION
FIELDED % OF COMPONENT REQUIREMENT

- COMPLETES FIELDING TO HEAVY DIVISIONS AND CORPS
- COMPLETES FIELDING TO LIGHT ATTACK AND CAV IN RC
- PROCUREMENT OBJECTIVE REVISED DOWNWARD FROM 2253 TO 1621
- RELIES ON UH-1 IN FP 3

FORCE MODERNIZATION
- LH WILL ELIMINATE ARMY AVIATION'S MOST SEVERE BATTLEFIELD DEFICIENCY – SEEING THE BATTLEFIELD, REPLACES AH-1 AND OH-58
- PROGRAMMED UH-60 PROCUREMENT WILL NOT COMPLETE MODERNIZATION OF OLDER UTILITY FLEET

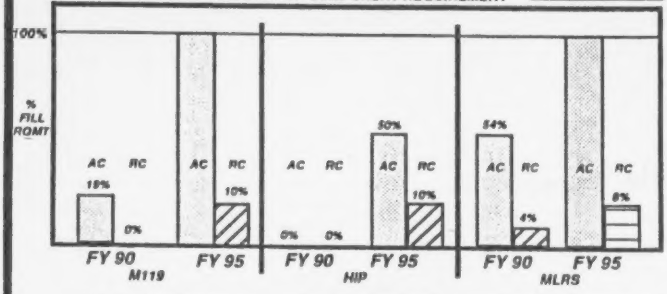
Aircraft procurement stops after FY91 in favor of long-term R&D to develop the Light Helicopter. The Light Helicopter is the centerpiece of the Army's Aviation Modernization Plan and will be the replacement for the AH-1, AH-6, and OH-58 series helicopters. It will complement combined arms operations and will provide an outstanding reconnaissance and security capability to light, heavy, and special operations units.

MISSION AREA ASSESSMENT
FIRE SUPPORT

FY 90 = 28 DIV
5 CORPS

FY 95 = 23 DIV
4 CORPS

FIELDED % OF COMPONENT REQUIREMENT



- COMPLETES FIELDING TO LIGHT FORCES
- FIELDS TO CONTINGENCY AND FORWARD DEPLOYED FORCES
- REPLACE 8" HOWITZER WITH MLRS

FORCE MODERNIZATION

- 155 & MLRS SADARM FOR COUNTERFIRE
- AFATDS & LIGHT TACFIRE FOR ENTIRE FORCE
- PIP FIREFINDER, DEVELOP ADVANCED FIREFINDER
- DEEP FIRES (ATACMS I, GLTR)
- DEVELOP AFAS AND FARV-A (ASM)

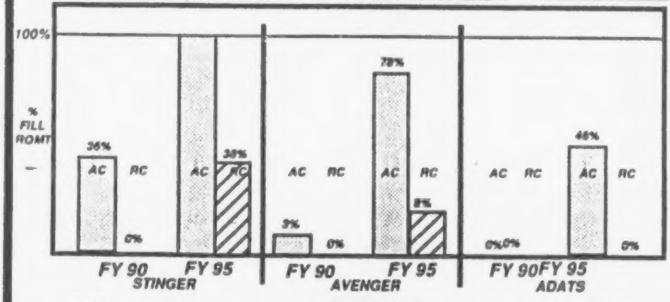
Fire support will be improved over the next decade by the fielding of advanced cannon systems, deep fire munitions, command and control suites, and the SADARM. Contingency forces and forward deployed forces continue to receive fielding priority, and we will retire the 8" howitzer by FY96 in the active component, replacing it with the MLRS. Light forces will receive the new M119 105mm light howitzer during the mid-nineties thus modernizing fire support in our light divisions. The M109 Howitzer Improvement Program will field a self-propelled howitzer with increased range, operational availability, and survivability. SADARM, for both 155mm cannon and MLRS, will provide a significantly enhanced counter fire capability when it enters service in FY94. ATACM Block I enters service as the Army's initial deep fires capability this year for attack of stationary targets and development of the Block II for attack of moving targets will lead to fielding in FY96.

MISSION AREA ASSESSMENT
AIR DEFENSE

FY 90 = 28 DIV
5 CORPS

FY 95 = 23 DIV
4 CORPS

FIELDED % OF COMPONENT REQUIREMENT

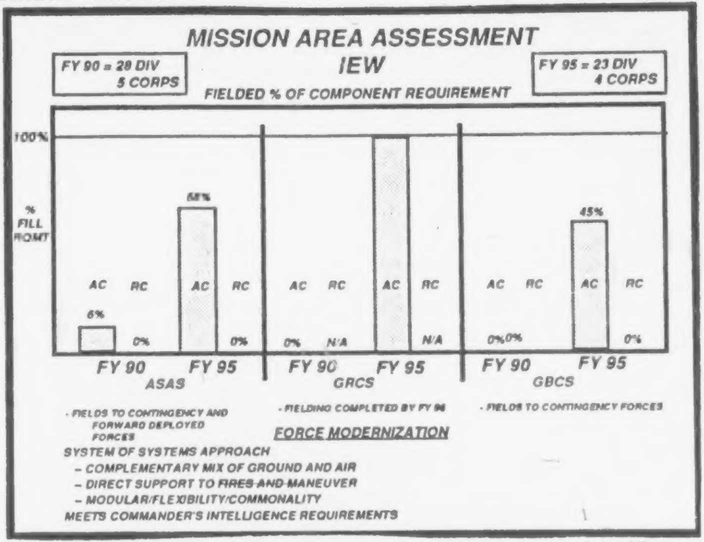


- AC FIELDED BY FY94
- RC FIELDED BY FY94
- AC FIELDED BY FY98
- RC FIELDED BY FY02
- POMCUS FIELDED BY FY91
- AC FIELDED BY FY98
- RC FIELDED BY FY03
- POMCUS FIELDED BY FY02

FORCE MODERNIZATION

- CORPS SAM FOR CONTINGENCY MISSIONS, RAPID REINFORCEMENT
- INCREASED ATM CAPABILITY
- RETIRE CHAPARRAL (FY98), VULCAN (TOWED-FY94, SP-FY98), AND FAAR (FY 90)

Air defense modernization will focus on the completion of the Forward Area Air Defense (FAADS) System of Systems. As the FAADS components are fielded, the aging Vulcan, Chapparral, and Forward Area Alerting Radar (FAAR) systems will be retired from the force. Stinger provides a man-portable air defense capability to active and ARNG units. With full scale production approved in April 1990, Avenger (PMS) provides mobile and effective air defense for the Army's corps and light/special divisions. ADATS (LOS-F-H) will provide protection of the Army's heavy forces investment against attack helicopter and fixed wing threats in the main battle area (MBA). FAADS C3I will tie together the individual FAADS pieces into a cohesive and efficient air defense force. The fielding of FAADS will support the Army's forward deployed, contingency and rapid reinforcement missions.



MISSION AREA ASSESSMENT
IEW
FIELDED % OF COMPONENT REQUIREMENT

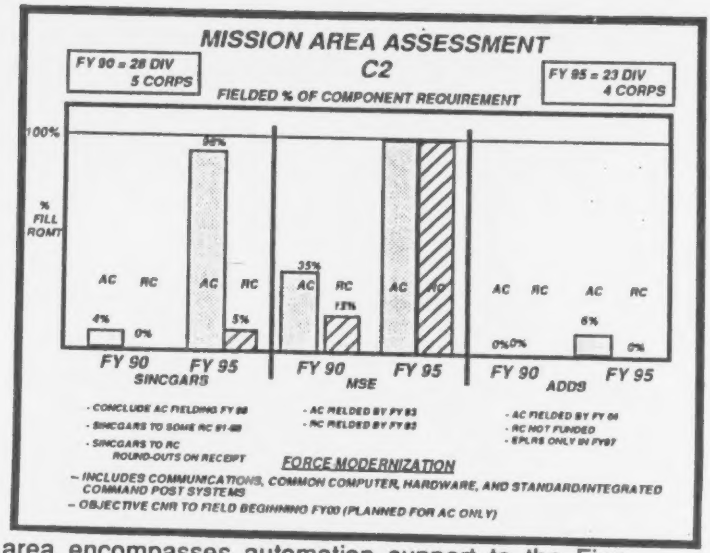
FORCE MODERNIZATION

SYSTEM OF SYSTEMS APPROACH
- COMPLEMENTARY MIX OF GROUND AND AIR
- DIRECT SUPPORT TO ~~FIRES AND MANEUVER~~
- MODULAR/FLEXIBILITY/COMMONALITY

MEETS COMMANDER'S INTELLIGENCE REQUIREMENTS

IEW modernization will meet the commander's intelligence requirements in an accurate, timely and efficient manner in support of force deployment and operations for forward deployed and contingency operations.

The All Source Analysis System (ASAS) will provide automated support for all-source intelligence, analysis and fusion, collection management, and dissemination. GUARDRAIL Common Sensor is an airborne tactical and radar intercept and emitter location system and will be one of the Army's primary systems for deep operations targeting along with the Air Force J-STARS, when it is fielded. The capabilities of the five vehicle-mounted, tactical ground SIGINT and ECM systems found in today's divisions will be consolidated into the Ground Based Common Sensor.



- CONCLUDE AC FIELDING FY 98
- SINCGARS TO SOME RC 91-98
- SINCGARS TO RC ROUND-OUTS ON RECEIPT

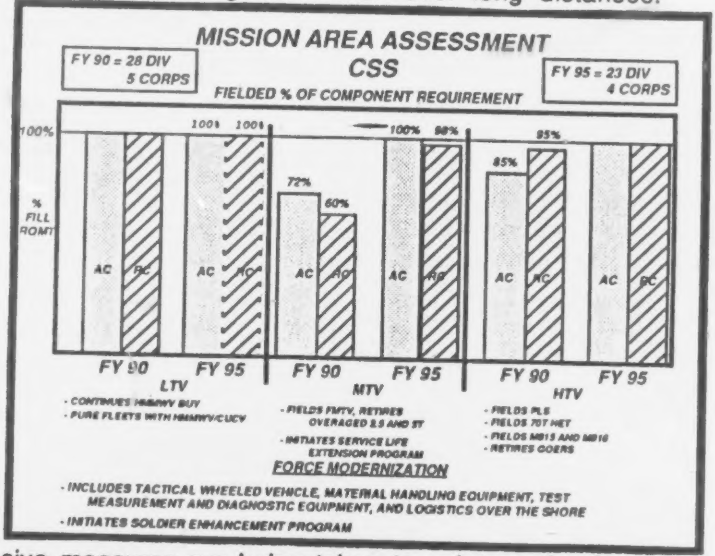
- AC FIELDED BY FY 93
- RC FIELDED BY FY 93

- AC FIELDED BY FY 96
- RC NOT FUNDED
- EPLRS ONLY IN FY97

FORCE MODERNIZATION

- INCLUDES COMMUNICATIONS, COMMON COMPUTER, HARDWARE, AND STANDARD/INTEGRATED COMMAND POST SYSTEMS
- OBJECTIVE CNR TO FIELD BEGINNING FY00 (PLANNED FOR AC ONLY)

This area encompasses automation support to the Five Battlefield Functional Areas (BFAs) (maneuver, fire support, air defense, intelligence/electronic warfare, and combat service support), and supporting communications systems that make up the Army Tactical Command and Control System (ATCCS). The integration and interoperability among these systems is a major thrust in the C2 Mission Area. Fielding of initial capabilities in each of the five BFAs will begin between FY93 and FY95. SINCGARS will be fielded to all units in Force Packages 1 and 2 by FY98. MSE will be fielded to both AC and RC by FY93. C2 future modernization involves the development of interoperable communications and computer systems designed to assist the commander in collecting, analyzing, and disseminating information over long distances.



- CONTINUES HMMWV BUY
- PURE FLEETS WITH HMMWV/CUCV

- FIELDS FMTV, RETIRES OVERAGED 2.5 AND 5T
- INITIATES SERVICE LIFE EXTENSION PROGRAM

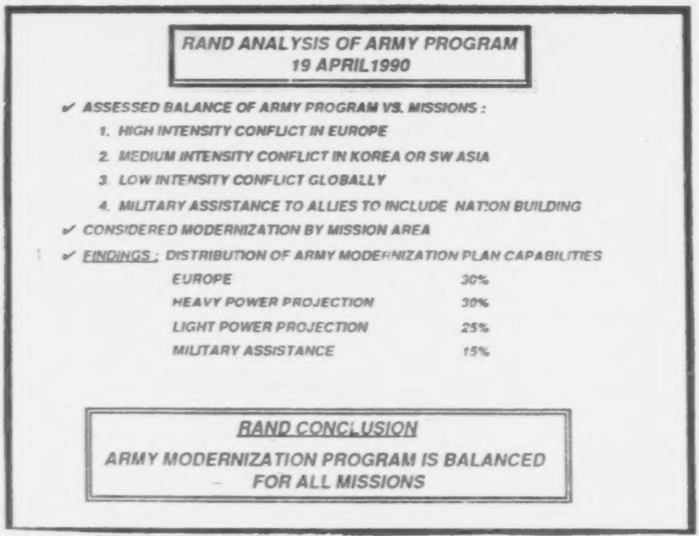
- FIELDS PLS
- FIELDS 70T HET
- FIELDS M815 AND M816
- RETIRES GOERS

FORCE MODERNIZATION

- INCLUDES TACTICAL WHEELED VEHICLE, MATERIAL HANDLING EQUIPMENT, TEST MEASUREMENT AND DIAGNOSTIC EQUIPMENT, AND LOGISTICS OVER THE SHORE
- INITIATES SOLDIER ENHANCEMENT PROGRAM

Extensive measures are being taken to enhance the Combat Service Support infrastructure and capabilities. The FY91 budget supports the implementation of the Tactical Wheeled Vehicle

Modernization Plan which we sent to Congress last year. The Maneuver Oriented Ammunition Distribution System (MOADS) will reach fruition with the fielding of the Palletized Loading System (PLS) in FY92. Modernization of the 2.5 ton and 5 ton medium truck fleet will begin in FY91 with the production of the Family of Medium Tactical Vehicles (FMTV). HMMWV production will continue throughout the decade and is the primary mobility enhancer for the light division. Logistics-Over-The-Shore (LOTS) capability will be increased with the production of the Lighter Amphibian-Heavy (LAMP-H) beginning in FY92. The initiation of the Soldier Enhancement Program (SEP) will vastly improve the individual soldiers clothing and equipment needed to counter existing and emerging threats.



RAND ANALYSIS OF ARMY PROGRAM
19 APRIL1990

- ✓ *ASSESSED BALANCE OF ARMY PROGRAM VS. MISSIONS :*
  1. *HIGH INTENSITY CONFLICT IN EUROPE*
  2. *MEDIUM INTENSITY CONFLICT IN KOREA OR SW ASIA*
  3. *LOW INTENSITY CONFLICT GLOBALLY*
  4. *MILITARY ASSISTANCE TO ALLIES TO INCLUDE NATION BUILDING*
- ✓ *CONSIDERED MODERNIZATION BY MISSION AREA*
- ✓ *FINDINGS : DISTRIBUTION OF ARMY MODERNIZATION PLAN CAPABILITIES*

EUROPE	*30%*
HEAVY POWER PROJECTION	*30%*
LIGHT POWER PROJECTION	*25%*
MILITARY ASSISTANCE	*15%*

RAND CONCLUSION

ARMY MODERNIZATION PROGRAM IS BALANCED FOR ALL MISSIONS

In concert with our overall strategy, we asked the RAND-ARROYO Center to do an independent assessment of our modernization plans for the 1990s. Their conclusions reinforced the balanced nature of Army current and future programs concluding the Army's plan provides roughly equal support for its high, mid and low intensity warfighting missions. This distribution emphasis differs substantially from a widely shared view that the Army has focused on the Europe-heavy wartime mission to the exclusion of all others, revealing the balanced force approach essential to addressing contingencies across the operational continuum.

ARMY TECH BASE:

Declining defense budgets have caused the Army to make some hard choices in our R&D investment strategy. The tech base is the key to the Army's long term modernization and despite overall decline in resources, we will preserve growth in the tech base over the longer term. Our goal is to invest in technologies enabling us to equip our forces with the overmatching warfighting capabilities necessary to defeat increasingly capable regional threats.

Maintenance of technological superiority is key to avoiding technological surprise by weapons of "enhanced conventional capabilities" and "new technical principles" that remain the stated objective of the Soviet Union. Our vision of a Strategic Army, smaller in size, but capable of projecting national power in any hemisphere, across the operational continuum, requires a robust, innovative, and efficient tech base, clearly focused on the Army's critical warfighting needs. Our tech base is the bridge to future modernization.

MODERNIZATION ASSESSMENT

NEAR TERM (FY 90-91)	• SMALLER, VERY CAPABLE ARMY • MODERNIZATION BY FORCE PACKAGES ONGOING
MID TERM (FY 92-97)	• SMALLER, LIGHTER FORCES • FORCE PACKAGE 1 CAPABILITIES ENHANCED, 2 & 3 MODERNIZED BY REDISTRIBUTION • INDUSTRIAL BASE AT RISK
FAR TERM (FY 98-06)	IF MODERNIZATION STRATEGY FOLLOWED: • KEY CAPABILITIES AND TECHNOLOGY FIELDED TO A HIGHLY MODERNIZED COMBINED ARMS TEAM • U.S. MAINTAINS TECHNOLOGY EDGE

The Army modernization strategy for the 1990s is based on well thought out options which will address the myriad contingencies that we may face in the coming decade. Force structure reductions will afford the Army the opportunity to field robust, modern systems throughout the total force. In the near-term, the smaller, capable Army will continue modernization efforts assured by past and current budget authorizations. In the mid-term, as the number of divisions are reduced in the force structure, buy-outs of major systems such as the tank and the Patriot and the reassignment of modern systems to Force Package 2 and 3 units will result in the modernization of those forces. For the far-term, we will protect our tech base and ensure protection from technological surprise from potential enemies while ensuring key capabilities and technologies continue to be fielded to highly capable combined arms teams capable of meeting and defeating threats worldwide. With your continued support, and faith in the vision ahead for the 1990s, the Army can and will continue to be a viable force capable of meeting the nation's land power projection requirements worldwide.

U.S. MARINE CORPS

STATEMENT OF LT. GEN. WILLIAM ETNYRE, U.S. MARINE CORPS, COMMANDING GENERAL, MARINE CORPS COMBAT DEVELOPMENT COMMAND

ACCOMPANIED BY:

LT. GEN. JOHN R. DAILEY, U.S. MARINE CORPS, COMMANDING GENERAL, MARINE CORPS RESEARCH DEVELOPMENT AND ACQUISITION COMMAND

SEA POWER

Senator INOUYE. May I call on General Etnyre.

General ETNYRE. Thank you, Mr. Chairman. I appreciate the opportunity to amplify and augment the statement that I sent forward. I know that I am in the land warfare arena, even though I am going to talk about sea power.

It is a fact I think we all have lived with our entire lives, and those that have followed us will live with the same reality that more than two thirds of this globe is covered by water. We are, in effect, an island nation, and economically, militarily and diplomatically we are a maritime nation.

For 45 years this Nation has followed a continental military strategy that has focused substantial resources on the continental threat and, at the same time, we have experienced our adversary shifting to a maritime strategy from his own continental strategy. We feel that the realities of the world we live in focus our attention on the fact that we must be prepared to deliver land warfare capability from the sea and that has been the focus of the U.S. Marine Corps since its inception.

Since World War II, just to hit a few facts, of the 258 international crises that we had in this world, the naval forces, of which the Marine Corps is a very substantial part, were involved in answering 80 percent of those crises. The political and economic realities of the world say that the littorals of the world are going to be the population base of the undeveloped nations.

Within 50 miles of any seacoast lives 80 percent of the population of the developing countries. So, the perspective of crises of the future and international incidents being associated with areas that can be reached from the sea is substantial. Overseas basing and support of forward basing is decreasing. It is decreasing in support in this country. It is decreasing in necessity with our alliances.

FOUR AREAS OF POTENTIAL PROBLEMS

We must continue to place a premium on a capable, mobile, logistically independent naval power that can project that power from sea bases and can sustain that power projection for long periods of time. Globally, we assess four areas as potential problems: One, the Pacific rim, where we have a division of the haves and the have-nots, and where, coincidentally, not incidentally, there is population explosion and areas which will require attention in the future; two, the material-rich nations of Africa where the hunger problem and the migration of populations to the seacoast for mere survival is a serious problem and also a focus of potential crisis in the future; three, the volatile nations of the Middle East which present a problem for the immediate future; and four, the turbulent nations of Latin America with their narco-terrorism and a resurgent population explosion are all areas that we feel will be the focus of the future for international crises.

This world that I have described can be satisfied very adequately by the unique characteristics of an expeditionary sea-based power, completely integrating air-to-ground capability and representing a true force in readiness, a force in readiness that does not have to be sustained by a forward base on land.

NAVY-MARINE CORPS INTEGRATION

The naval character of the Marine Corps has shaped our relationship with the Navy and we have worked as a team over the years. The ability to apply land warfare power from the sea has always been important and will become more important in the future.

The Navy-Marine Corps relationship is deep-seated in that we have integrated staffs. We do not come together to conduct operations. We live together, breathe together, and understand the extension of naval power to the land surface. Sea basing, we feel, is the wave of the future, and the ability to station in international waters substantial forces without the necessity of forward basing on foreign soil is going to become more significant. We think that the application of power from a sea base is going to become a dominant feature of our future.

MARINE AIR-GROUND TASK FORCE

The Marine Corps is much like the Army, but also much like the Navy. We have a hybrid service that has to blend with both. I think we have done this with some degree of success. We have organized the Marine Corps into Marine air-ground task forces [MAGTF's] for the purpose of projecting naval power into a land warfare environment. These are a combined arms team.

The capability for fixed-wing aircraft, rotary-wing aircraft, artillery, armor, and light infantry is all contained in the Marine Air-Ground Task Force. We currently have three Marine expeditionary forces [MEF] to provide those Marine air-ground task forces in the active service. We have one in the Reserve force service. So the strength of the Marine Corps, the fleet Marine force is spread over three Marine divisions, three Marine aircraft wings, and three Marine force service support groups in the Active force and one of each of those in the Reserve force.

Those MEF's are sized to answer the contingency that arises. If the situation is one that is properly put in the low-intensity category, the makeup of a Marine air-ground task force probably would be in the size of a Marine expeditionary unit. A Marine expeditionary unit would be approximately 2,200 marines and sailors. If it is a larger exercise or a larger crisis, we would probably commit a Marine expeditionary brigade which is made up of approximately 15,000 marines and sailors. A larger crisis of some type might possibly call upon our largest Marine air-ground task force, and that is a Marine expeditionary force which is made up of approximately 50,000 marines and sailors.

To augment that force we have the maritime prepositioned ships which are constantly at sea and are associated with brigades of marines, who are stationed in Conus and would rendezvous with those ships by flying away in strategic mobility lift. The equipment that we have developed and provided to the Marine Corps is the equipment that is preponderantly developed in a community situation with the U.S. Army. The Army has the lead on the vast majority of the equipment that the Marine Corps owns.

AMPHIBIOUS WARFARE

The exception is the equipment that is associated with amphibious warfare. Title X has given the Marine Corps the task and charter to lead in the development of amphibious warfare. So the exceptions to commonality come in the area of the amphibious warfare doctrine that we have developed; exceptions such as the AV-8B, which is an aircraft that you will find only in the U.S. Marine Corps of this Nation's force, the LAV-25 light-armored vehicle, which is a light-armored vehicle for carrying a limited number of personnel and has other mission role variants that provide for supporting fire power; the LVT-7A1, our assault amphibian tracked vehicle is a vehicle for forced entry of Marine forces from the sea. It also is a vehicle that gives us not only water mobility in high seas states, but tactical mobility on the land once we have secured a beachhead. We are looking at an advanced amphibious assault vehicle to replace the current vehicle. Those are the only pieces of equipment on which the Marine Corps is working that are unique to the Marine Corps. The rest of the equipment we use in conducting land warfare projection from the sea are common with the U.S. Army.

LOW-INTENSITY CONFLICT

I would like to comment for just a moment on the spectrum of conflict. We hear a lot of talk about low-intensity conflict. It is hard to really define low intensity, midintensity, and high-intensity so that it is understandable to all the parties that are participating. I am not trying to attempt to solve that great problem of debate, but I would like to bring a perspective that we apply to this spectrum of conflict.

We look at low-intensity conflict really as indirect warfare, or a counterinsurgency to put down a revolutionary effort in some other country. We break this down further into the categories of stability operations and limited objective operations, what we see as being the focus of effort in low-intensity conflict. Stability operations include: presence mission—simply the presence of military force in the area; humanitarian assistance in an area where it is required; mobile training teams sent outside of the continental United States on a regular basis; peacekeeping formations in some undeveloped part of the world; predominantly sea-based counterinsurgency—the ability to oppose an insurgency from a sea-based platform; riverine operations—those operations that would be mothered to a sea-base operation and focus on the primary avenues of transportation in many parts of the world inland waterways; and counternarcotics operations—all in the category of stability operations that would be needed throughout the world.

Also in the low-intensity category would be limited objective operations: counterterrorist operations, amphibious raids, noncombatant evacuations, tactical recovery of downed aircraft, and in-extremis hostage rescue. Marine forces that I spoke of as a Marine air ground task force are permanently at sea in some form and have the capability of conducting all of the categories of low-intensity conflict that I just outlined.

MIDINTENSITY CONFLICT

The next category is midintensity conflict. Here is an area in which we are more conventional.

Senator INOUYE. General, before you proceed, you have touched upon a very important aspect of our studies, because as we enter into this new and challenging era we are faced with new words—low intensity, midintensity, light intensity, heavy intensity, and Third World contingency operations. As you proceed with your definitions, may I ask the Army if they concur? Do you concur with that definition?

General GRANRUD. Well, let me clarify the point. We have just completed in a joint sense a joint manual which applies to all of the services which defines in some detail the terms that are used by the Department of Defense to outline each one of these categories. The Army was the lead agency on putting that manual together. It is now out for staffing and I believe will be the manual that we will use.

Senator INOUYE. But at this moment, you have no idea whether you concur or not?

General GRANRUD. Oh, absolutely, and I think that is what we are moving toward—a common definition of all of those things. I think we are very close to being there.

Senator INOUYE. When you are completed with that, will you share with us the manual so that we know what we are talking about?

General GRANRUD. Absolutely, sir.

Senator INOUYE. Please proceed.

General ETNYRE. Thank you, sir.

Midintensity we look at as regional warfare. More intense, but not a situation that is being duplicated in other parts of the world. We have a more sophisticated adversary in this case, in which the potential for the capability to deliver NBC weapons is a danger. This type of a situation we can handle right now with the size of the current Marine Corps. We have a force that is now positioned in the Active force to handle a situation through midintensity-type warfare.

Senator INOUYE. General, Just Cause—what was that?

General ETNYRE. Just Cause, in my estimation, would have been low intensity.

Senator INOUYE. Not midintensity?

General ETNYRE. No, sir; if it had expanded beyond the boundaries of Panama, it would become a midintensity regional conflict, but it was done so successfully and contained so rapidly that it did not move into that stage, in my personal opinion.

HIGH-INTENSITY CONFLICT

High-intensity conflict would be the last category, and in this case we are talking about global war, and in the case of this serious situation the Marine Corps would have committed all the Marine expeditionary forces that are in the Active force and would be required to call upon mobilization to have in the Active force that reserve contingent of a division, a wing and a FSSG so that we would have the capability of contributing our part of the effort in high-intensity conflict.

CONCEPT BASE REQUIREMENT SYSTEM

To ready the Marine Corps for any of the three categories, we have a system in place called the concept base requirement system. It is a system where we first examine the threat to national security, the strategy, the defense guidance, the guidance from the Congress, and our own Commandant's guidance; we come up with concepts of employing Marine forces, examine the capabilities of those forces, and determine what the requirements are to fight that force.

We look at the structure, the doctrine, the training, and the equipment that would be necessary for that force to be functional and capable of commitment. That system is a system that is not unique to the Marine Corps. It is very similar to the system that is used by the U.S. Army and I think that the conclusions we come to in examining our requirements that way are fairly similar.

Briefly, that is just an addressal of some of the high points of the statement that I submitted, and I think it introduces us to some of the issues we have to face in the future about how to structure our defense forces.

[The statement follows:]

STATEMENT OF LT. GEN. WILLIAM ETNYRE

Mr. Chairman, Members of the Committee:

I appreciate the opportunity to appear before the committee and talk with you today about Marine Corps concepts for conducting land warfare.

The Marine Corps conducts land warfare from the sea and is not and never has been a second land army. The naval character of the Marine Corps has shaped this nation's long standing tradition of maritime superiority. Marines are naval in character and represent the ability to project naval power ashore. We serve in key billets on Navy staffs and in ships' companies; fly from air capable ships; participate in the design and development of amphibious ships, landing craft, and aircraft and in the formulation of naval strategy. Navy ships are designed to handle Marine Corps equipment, which is designed to fit and operate in Navy ships. Marine pilots are naval aviators, fly naval aircraft equipped with tailhooks and folding wings or rotors, and are trained to operate from either aircraft carriers, traditional airfields, or expeditionary landing sites. Navy officers and sailors serve on Marine staffs not in a liaison capacity, but as permanently assigned members; and Navy chaplains, doctors, and corpsmen are permanently assigned to every Marine Corps tactical organization. The Navy-Marine Corps relationship is deep and well established; it is not simply a temporary joining of two organizations upon assignment to operational missions.

The laws of the United States direct the Marine Corps to provide "Fleet Marine Forces (FMF) of combined arms, together with supporting air components, for service with the fleet in...the prosecution of a naval campaign" or for "such additional duties as the president may direct." To provide these combined arms forces, the Marine Corps organizes for operations into Marine Air-Ground Task Forces (MAGTFs). The elements of these operational task forces are taken from the four ground combat organizations, or Marine Divisions; from the four aviation combat organizations, or Marine Air Wings; and from the four combat service support organizations, or Force Service Support Groups. These elements are joined together in varying sizes and combinations, according to the requirements of an assigned or anticipated mission, and united under an integrated air-ground command element.

In structuring and equipping the divisions, aircraft wings, and service support groups from which Marine Air-Ground Task Forces are formed, the Marine Corps acquires only the necessary numbers and types of equipment to enable the combat and support elements to be blended into mutually supporting organizations with enough maneuver capability, firepower, and sustainability to be effective in combat. These combat elements must be rapidly deployable and readily transportable in amphibious ships. This means that Marine divisions are structured to be light enough for strategic mobility, yet has artillery, armor, armored amphibious personnel-carriers, air-defense systems, and antitank systems required to ensure operational success. Our ground combat elements are structured to rely on the firepower and assault support provided by our aviation elements, and, in turn, the aviation elements are structured and equipped to provide the close air support required by the ground elements. In addition to their primary role of providing tactical mobility and close air support, some of our aircraft can be used in an air defense role.

By structuring Marine air-ground task forces thus, we remain light enough in those things that must be carried in Navy amphibious ships to enable our nation to maintain a balanced capability to project maritime power. Moreover, this carefully intertwined structure enables the Marine Corps to meet the nation's requirement for "forces of combined arms."

CURRENT CAPABILITIES

Over time, the Marine Corps has developed a total force capabilities package which shapes a Marine Corps that is prepared for deployment and ready for employment. The current capability of the Fleet Marine Force to fulfill all contingency/low intensity capability commitments with sustainment, and without the necessity of mobilizing reserves underlines our readiness and is unique among the Services. The ability to task organize Marine Air-Ground Task Forces from reservoirs of combined arms provides a flexibility which must be retained and enhanced in the future. Our effectiveness will be enhanced through emphasis on maintaining a well-prepared "ready" Marine Expeditionary Brigade (MEB) as the forward echelon of the Marine Expeditionary Force (MEF) and by expanding special operations capabilities within the MEF. Interoperability, of Marine Air-Ground Task Force command elements with other Services has been enhanced including the capability for a MEF to serve as the nucleus of a joint task force. Finally, the flexibility and speed of deployment and employment has been improved through changes to Maritime Prepositioning Force equipment and through more flexible use of existing strategic projection assets.

Facing an unstable international situation and a constrained resource forecast, it is clear that the Fleet Marine Force must retain its aggregate usefulness, i.e., multi-purpose forces that can operate across a probable spectrum of conflict. In that regard the following characteristics constitute current capability of Naval Expeditionary Forces; the baseline upon which power projection, seabased, contingency forces must be built:

o The Marine Expeditionary Force (MEF) is organized to provide forces ranging from mobile training teams to assault-capable Marine Air-Ground Task Forces up to Marine Expeditionary Forces size.

o The MEF can enter forcibly when uninvited.

o The MEF can deploy subordinate Marine Air-Ground Task Forces and expand those forces without disrupting on-going operations.

o The MEF can provide formidable organic aviation that includes command and control of aircraft and missiles, assault support, offensive air support, anti-air warfare, aerial reconnaissance, and electronic warfare.

o Through the MEF Command Element, as well as subordinate Command Elements, is structured and equipped to act as the nucleus of a joint or combined task force.

o The MEF and its subordinate Marine Air-Ground Task Forces are expeditionary and deploy with substantial organic sustainability.

o The MEF and its subordinate Marine Air-Ground Task Forces can make a smooth transition from amphibious assault or expeditionary landing operations to subsequent operations ashore.

o The MEF can deploy subordinate Marine Air-Ground Task Forces capable of loitering at sea, composite those Marine Air-Ground Task Forces into a larger Marine Air-Ground Task

Force, and maintain that afloat posture until action ashore is required.

o Marine Air-Ground Task Forces, in addition to traditional employment with the fleet, may be employed as a component of a joint force, or as a single Service force under a Commander in Chief (CINC).

The MEF also has unique aspects that permit it to function very effectively in the joint or combined environment. As the part of the naval service charged with the conduct of amphibious warfare, the Marine Corps has for years served as the interface between the fleet and forces ashore. The challenge of developing tactics, techniques, procedures, and equipment which are functional afloat and ashore has forced Marines to think in terms of interoperability. As a consequence, many of the internal procedures employed by Marines to integrate weapons, tactics, logistics and communications are well-suited and easily expanded to permit Marines to function smoothly within joint task forces in expeditionary operations. For example, effective integration of aviation and naval gun fire at the lowest tactical levels creates responsiveness, and complements rather than duplicates the supporting arms procedures of the other Services.

MARINE AIR-GROUND TASK FORCES - SPECTRUM OF CONFLICT

The global security environment by the year 2000 is expected to include increased Third World population, urbanization, and debt. The Third World will remain the location of nearly all future conflicts, as it has since World War II. Both drug trafficking and political terrorism will likely continue to pose substantial threats to the United States. U.S. military forces will probably have to work within diminishing defense resources and face reduced access to overseas bases. These circumstances will put a premium on seabased, strategically mobile naval power projection forces complete with embarked Marine Air-Ground Task Forces.

At the low end of the spectrum of conflict, Marine Air-Ground Task Forces will execute stability operations to assist friendly or allied governments to maintain internal stability and public welfare. Stability operations may include: military operations in support of the presence mission, humanitarian assistance, mobile training teams (MTTs) as a primary Marine Air-Ground Task Force security assistance tool, peacekeeping operations, security operations, seabased counterinsurgency operations, riverine operations, and support to counter-narcotic operations. The use of force is a contingent self-defense measure during conduct of stability operations.

Within the next higher band of low intensity conflict, Marine Air-Ground Task Forces will plan for the use of force during the conduct of limited objective operations. These include: counterterrorist operations and peacetime contingency operations, to include strike operations such as an amphibious raid and port or airfield seizures, non-combatant evacuation operations (NEO); tactical recovery of downed aircraft, equipment, and personnel; and in-extremis hostage rescue operations. All Marine Air-Ground Task Forces will be special operations capable and capable of supporting counterterrorist forces in counterterrorist operations.

For mid-intensity conflict Marine Air-Ground Task Forces will rely primarily on the active force structure to conduct conventional combat operations, with use of the Marine Corps share of a 200,000 reserve call-up a possibility. The use of new vertical take-off and landing (VTOL) aircraft, advanced assault amphibious vehicles (AAAVs), and landing craft, air cushion (LCAC) will allow Marine Air-Ground Task Forces to conduct amphibious operations from over-the-horizon distances of 25 miles or more.

At the highest band of the spectrum of conflict, high intensity conflict or general war, the Marine Corps will remain capable of fulfilling its initial commitments without activation of the Marine Corps Reserve by being capable of deploying two MEFs for conventional combat. In accordance with the total force concept, sustainment of these forces in extended general war would require augmentation and reinforcement by designated units of the Select Marine Corps Reserve (SMCR), as well as forming the core of a fourth MEF. The individual ready reserve (IRR), as well as the additional manpower that general mobilization or a declaration of war would bring, would allow round out of the fourth MEF and formation of a fifth. With the exception of the additional dimension of possible nuclear strikes, amphibious operation and operations ashore will be similar to those conducted in mid-intensity conflict.

CONCEPT BASED REQUIREMENTS SYSTEM

In order to determine changes to force structure, doctrine, and equipment in response to the changing threat, the Marine Corps uses a process termed the Concept Based Requirements System (CBRS) which links national strategy to those/required changes which provide the most capable Marine Air-Ground Task Forces.

In 1987, the Commandant of the Marine Corps determined a need for a planned approach to get the best ideas and equipment into the Fleet Marine Force within the shortest period of time, and to ensure that resources were allocated wisely. Accordingly, he dissolved the Marine Corps Development and Education Command (MCDEC) and tasked its responsibilities between two new organizations: the Marine Corps Combat Development Command (MCCDC); and the Marine Corps Research, Development, and Acquisition Command (MCRDAC). MCCDC was tasked to develop and assess concepts, prepare plans, determine materiel requirements, and to manage Marine Corps training and professional military education. MCRDAC was tasked with determining and executing acquisition strategies for the procurement of tactical systems. Headquarters, Marine Corps (HQMC) continues to develop Marine Corps input to the Department of the Navy (DoN) Program Objectives Memorandum (POM). CBRS is the process by which the efforts of MCCDC, MCRDAC, and HQMC are integrated to maintain and improve Marine Air-Ground Task Force capabilities. The process begins with an assessment of the global security environment, including such factors as Marine Corps roles and missions, the Defense Guidance, National Military Strategy, threat assessments, technological advances and the Commandant's guidance. The purpose of this activity is to identify the types of operations Marine Corps forces must be prepared to conduct.

The next stage of CBRS is concept development. For each type of operation, a concept stating how an operation will be conducted is developed. An example of this would be the over-the-horizon concept.

Once a concept is developed, the next stage of CBRS is determination of requirements. At this stage, concepts are analyzed to determine the capabilities needed to execute them. The type of analysis conducted depends on the type of concept. For example, at the service level, mission area analyses (MAAs) are performed to identify deficiencies in current capabilities and to pinpoint opportunities for exploiting or improving those capabilities. In the operating forces, FMF planners analyze operational concepts supporting an OPLAN and identify combat capabilities needed to execute the plans. Regardless of the operational concept or the level at which it is analyzed, the general method is the same: the concept analysis results in identification of capabilities required for execution; required capabilities are then further analyzed to determine the specific actions needed to implement them. The specific actions become warfighting requirements.

We have identified four major categories of warfighting requirements: doctrine (including tactics, techniques, and procedures); structure (organization); training and education; and materiel (equipment and supplies). When significant differences arise between required and current capabilities, entirely new required capabilities are identified. Alternative methods for satisfying new requirements are examined to identify the most cost-effective solution for providing the most potent warfighting capability. Development of new equipment is a last resort. If for example, analysis shows that a doctrine change will satisfy an identified requirement effectively, development of equipment to satisfy that requirement, also a possible solution, becomes unnecessary. Once finally determined, cost-effective solutions are then turned into program requirements. This then is our process for the determination of how we structure, train, and equip our force in order to successfully accomplish any mission assigned. As I mentioned earlier in my statement, the Marine Corps conducts land warfare from the sea. This naval character is the driving force behind our entire requirements determination process. The Marine Corps will initiate land warfare from the world's oceans. Marines embarked in navy amphibious ships will be sent forward by air and surface means in order to secure objectives necessary for the successful naval campaign.

DEFINITION OF LOW, MID, AND HIGH INTENSITY

Senator INOUYE. May I just go one step further on this definition business? The Korean war of the 1950's, how would you define that?

General ETNYRE. I would define that as a midintensity warfare.

General GRANRUD. That is correct.

Senator INOUYE. Vietnam?

General ETNYRE. Midintensity. It moved from low intensity to midintensity but never reached high intensity because we defined that as global and a commitment outside of one region.

Senator INOUYE. So the definition does not necessarily depend upon casualties, or potential casualties?

General ETNYRE. No sir; it does not, and that is very hard to explain to people who are becoming casualties of warfare that this is low intensity because to an individual it is very high intensity.

Senator INOUYE. So potentially a conflict that we may get involved in Korea at this moment would be midintensity?

General ETNYRE. At the outset; yes, sir.

Senator INOUYE. May I now call on General Cercy?

RESEARCH, DEVELOPMENT, AND ACQUISITION

STATEMENT OF MAJ. GEN. JAMES C. CERCY, DEPUTY FOR SYSTEMS MANAGEMENT, OFFICE OF THE ASSISTANT SECRETARY OF THE ARMY FOR RESEARCH, DEVELOPMENT, AND ACQUISITION

BUDGET REQUEST

General CERCY. Thank you, Mr. Chairman. It is indeed a pleasure to be here today and have the opportunity to present to you the research, development, and acquisition fiscal year 1991 budget request which supports the strategy that General Granrud laid out for you. What I would like to do is briefly address the procurement appropriation request in aviation weapons and track combat vehicles, missiles, ammunition, and Army RDT&E to cover the major thrust in each.

AIRCRAFT PROCUREMENT, ARMY

The centerpiece of aviation is the light helicopter. It completes its demonstration validation phase of research and development this year and we will down-select to one contractor team to enter full-scale engineering development in January 1991. This helicopter will give us a versatile armed reconnaissance aircraft capable of performing into the next century. The OH-58A and C models and the AH-1 Cobra attack helicopter it replaces will be 30 years old at the turn of the century. We will complete our Apache AH-64 buy this year and thus the fiscal year 1991 budget request is down significantly from that of fiscal year 1990.

MISSILE PROCUREMENT, ARMY

The missile procurement is characterized by our emphasis on forward area air defense and deep attack capabilities. ADATS is completing its initial operational tests now and is scheduled for continued procurement to reach first unit equipped in May 1993. The Army tactical missile system [ATACMS] is now completing its second low-rate initial production buy block I missiles and is scheduled to enter full-rate production in fiscal year 1991 with the first unit equipped in the fourth quarter of fiscal year 1990.

The ATACMS block II is in a competitive 2-year proof of principle right now between two contractors, developing infrared terminally-guided submunition technology. That proof of principle will be completed in August 1991.

PROCUREMENT OF WEAPONS AND TRACKED COMBAT VEHICLES, ARMY

The weapons and tracked combat vehicle procurement is dramatized this year by the termination of our tank production. With 225 tanks being procured in fiscal year 1991, 163 of those being M1-A1's and 62 being M1-A2's. We are taking this midterm risk so that we can proceed, in light of the declining budget and the reduced Warsaw Pact threat, with the Armored Systems Modernization Program.

The armored systems modernization is the key to modernization of our land force for the turn of the century. Designed to use the latest technology to increase lethality and survivability, with common chassis for four heavy variants, are tanks, infantry fighting vehicles, artillery vehicles, and combat engineer vehicles. It will provide significant savings in production, training, and operations and support cost for the future.

AMMUNITION PROCUREMENT, ARMY

The ammunition appropriation fully supports our training requirements and the continued modernization of our tank ammunition, with 105 mm and 120 mm kinetic energy rounds as a key part of our armor enhancement initiative.

OTHER PROCUREMENT, ARMY

Other procurement, Army begins the procurement of the family of medium tactical vehicles to upgrade our 2½-ton and 5-ton class of vehicles. We will continue the second year of the multiyear for our palletized load system.

In addition to trucks, other procurement, Army includes the procurement of night vision devices—the ANVIS, or aviation night vision imaging system, and the PVS-7, the ground night vision goggles, both of which proved of tremendous value in Just Cause in Panama. Our Army's capability to fight at night provides us a significant advantage over potential adversaries throughout the world.

Mr. Chairman, our program is geared to support a smaller Army capable of flexible response throughout the world and to remain technologically superior through the turn of the century. We appreciate your past support and solicit your continuance of that support for our 1991 request.

That completes my statement.

Senator INOUYE. Thank you, General.

[The statement follows:]

STATEMENT OF MAJ. GEN. JAMES C. CERCY

Mr. Chairman, I am Major General James C. Cercy, Deputy for Systems Management in the Office of the Assistant Secretary of the Army for Research, Development and Acquisition. It is an honor to appear before you today to present the Army's Fiscal Year (FY) 91 budget request in support of the "The Army in Transition".

As you have had presented to you, by MG Granrud from our Deputy Chief of Staff Office for Operations, the Army's transition plan to the future, I will present the Army's investment strategy to execute a smooth and efficient transition. I will explain the concept as it applies to the five major appropriations which support fielding new and modified equipment: Aircraft Procurement, Army (APA); Missile Procurement, Army (MIPA); Procurement of Weapons and Tracked Combat Vehicles, Army (WTCV); Procurement of Ammunition, Army (PAA); and Other Procurement, Army (OPA). Procurement decreases from $14.3 billion during FY 90 to $10.6 billion under the proposed FY 91 budget. RDTE increases from $5.4 billion under the FY 90 budget to $6.0 billion in the proposed FY 91 budget. We have directed our RDTE and Procurement efforts to the future -- 2000. In that light we are striving to provide the most technologically advanced systems to coincide with the modernization strategy. So, you will see a shift in emphasis towards research and development, which I will discuss in more detail as I present each appropriation later.

As we look at the transition under constrain resources, it is apparent that we are not able to afford the force structure and planned procurements from our pre conventional forces Europe (CFE) estimates. Therefore, we have made some tough decisions to terminate or curtail certain programs. We will continue with some programs and execute selected modification of other programs. As I cover each appropriation I will show how we intend to meet the immediate and interim needs as we strive for the future.

AIRCRAFT PROCUREMENT, ARMY

The centerpiece of the Army Aviation Modernization Plan (AAMP) remains the Light Helicopter program (LH) which is in the demonstration/validation phase, planned to enter full scale development in early FY 91. The AH-64A Apache buy will be complete in FY 90. We will procure 132 for a total buy of 807. We will be able to field 40 attack helicopter battalions for a robust attack helicopter force. The Longbow system will continue to be developed for the Apache. This system will prove to be a significant force multiplier based on a large incremental increase in survivability. OH-58D Kiowa Modification has been terminated in FY 90. There will be a total of 243 of these aircraft. We will start an RDTE program in FY 91 which will allow us to ARM all the OH-58D with hellfire, Stinger, Rockets, and 50 Caliber Machine gun. Its mission will be armed reconnaissance. This configuration is call the warrior and will be an interim system until the introduction of the LH. In FY 91 the UH-60L Utility will be in its last year of a five year multiyear for a procurement of 72 bringing the total procurement to 1147 as of FY 91. The UH-60L continues to be the Army's first line utility helicopter. The Army's medium lift helicopter is the CH-47D Chinook. It will be in a second year of the final three year multiyear procurement. We will field a total of 472 Chinooks. Of the 472, 51 will be modified for special operation forces.

The Aircraft Procurement, Army budget for FY 91 is $1.58 billion representing a $2 billion reduction over FY 90. The Army will accept termination of some procurements in order to protect the significant future payoffs afforded by RDTE investments in Light Helicopter and Longbow Apache.

Missile Procurement, Army

The FY 91 request for missile procurement includes nine missile systems: For Air Defense - Patriot Air Defense System, Stinger Air Defense Missile, Line-of-Sight Heavy or ADATS, Line-of-Sight or Avenger; For Deep Fires - Multiple Launch Rocket System (MLRS), Army Tactical Missile System (ATACMS); For Close Combat - TOW 2B, and Hellfire as well as Initial Procurement funds for the Advanced Anti-tank Weapon System Medium (AAWS-M).

Modifications to existing systems will continue to provide a robust interim missile inventory until the advent of future systems. In FY 91, missile modifications include Patriot Product Improvements, continued procurement of Phase III modification kits for Hawk ground equipment, optical improvements for the TOW system, and improvements to the MLRS launcher to adapt it to firing the Army TACMS (the MLRS family of smart munitions).

The RDTE efforts which will carry the Army's missile program into the next century include full funding for the Joint Tactical Missile Defense (JTMD), MLRS Terminal Guidance Warhead (TGW), Non-Line-of-Sight (NLOS) or Fiber Optic Guided Missile (FOG-M).

The FY 91 request for Missile procurement is $2.623 billion.

Procurement of WTCV, Army

The Preponderance of the Army's FY 91 request is for the M1 Abrams tank and the M2 Bradley Fighting Vehicle. Based on the transition, FY 91 will be the last year of M1 procurement at 225 for a total of 7847 or better tanks in our inventory. FY 91 will continue Bradley production but at a reduced level to match a smaller force structure requirement. We will continue production of the M119 Light Weight 105mm Howitzer, the carrier mounted 120mm Mortar, and small arms. The Army will proceed with low rate initial production (LRIP) for the M109A6 Howitzer Improvement Program (HIP). These programs will support the transition as we prepare the close combat mission area for the next century.

While we maintain a robust interim force, we will concentrate on the development of our Armored System Modernization (ASM) program designed to provide us with lethal and survivable close combat tracked vehicles for the turn of the century. This program is an RDTE effort designed to infuse maximum commonality in our close combat tracked vehicles.

The FY 91 request for WTCV is $2.17 billion.

Procurement of Ammunition, Army

The FY 91 budget request provides limited peacetime buys of essential, more lethal modern ammunition, and modest increases to the war reserve stockpile it fulfills our commitment to a trained and ready Army by supporting: training one hundred percent; our Armament Enhancement Initiative; and lastly, improves the safety and environmental condition and maintenance of the production base.

The largest portion of this procurement is for our first priority -- tank ammunition. We will continue to field the new 105mm and 120mm kinetic energy rounds as a key part of our Armor Enhancement Initiative (AEI). We will also make a substantial investment in continued procurement for the new 105mm High Explosive Rocket Assist (HERA) and 155mm Baseburn Artillery projectiles. In the small and medium caliber area, we build war reserves of the new 25mm kinetic energy round. Finally, we continue fielding the Volcano Mine system that rapidly lays anti-personnel and Antitank Mine Barriers from vehicle dispensers.

Training requirements are satisfied in the budget request and also by drawdown of on-hand inventories. In this manner, we exercise smart management of ammunition inventory.

While we maintain the ammunition account for the transition plan, we will focus on the following development programs. Tank ammunition - continue developmental efforts on conventional kinetic energy (KE) rounds, smart KE rounds (STAFF), and chemical energy (CE) development focusing on self protection against helicopters. Indirect fire - advanced propulsion efforts underway to evaluate unicharge (Conventional) and liquid propellant (LP).

The FY 91 request for Ammunition procurement is $1.4 billion.

Other Procurement, Army

The tactical and support vehicle portion of OPA continues the procurement of the high mobility multipurpose wheeled vehicle (HMMWV). This system is in the third year of a five year multiyear. We will begin procurement of the family of medium tactical vehicles which is the keystone of upgrading our medium tactical fleet. We will complete the trailer buy, terminate the 5-Ton truck buy and do the second year tractor buy for the Heavy Equipment Transport System (HETS) which will enable us to safely haul the Abrams tank. We will also continue the second year of the multiyear for the Palletized Losing System (PLS), which is the keystone modernization program for our heavy fleet. We will continue to provide the variety of equipment that protects the soldier and enhances his capability and the capability of the weapons systems he uses.

Within OPA we also include the procurement of Command, Control, Communications and Intelligence systems. To ensure that the Army has the ability to meet regional threats projected for the 1990's we are continuing to procure systems that provide our soldiers the advantage on the battlefield no matter where that may be. We will procure Night Vision devices, both ANVS-6 ($43.6M) and PVS-7 ($48.0M) systems used so successfully in Panama during operation "Just Cause". With the drawdown of forward deployed forces and the increased importance of intelligence for early warnings as well as an increased emphasis on counternarcotics and counterterrorism, we are continuing the Intelligence and Electronic Warfare (IEW) development and procurement of sensor systems such as the Common Ground station and the Joint Stars ground station module.

The FY 91 Other Procurement request is for $2.8 billion.

Closing

In summary, Mr. Chairmen, our strategy accepts some mid-term risk by limiting procurements, but protects our national strength in technology to insure we keep our lead and prevent technology surprise.

EQUIPMENT PROCUREMENT, MARINE CORPS

Senator INOUYE. General Dailey?

General DAILEY. Sir, I have no opening statement.

Senator INOUYE. General Dailey, maybe you can help me on this. General Gray in his annual report to Congress suggests in his master plan that the Marine Corps will place greater emphasis on low-intensity and midintensity conflicts. Will this have any impact upon your equipment procurement?

General DAILEY. This has been a goal of General Gray's ever since he assumed his position as Commandant of the Marine Corps. We have, over the past 3 years, focused on lighter and more mobile systems, and we will continue to do that.

That is a very important point here, sir, because there are three considerations, essentially, when you are dealing with a ground combat vehicle. They are mobility, fire power, and ballistic protection, and there are tradeoffs in those three areas that must be made when determining what you want the vehicle to do. In the case of the Marine Corps, we are very concerned about the mobility aspects of the equipment we buy and so weight becomes a very significant feature. Therefore, ballistic protection is often sacrificed in order to achieve this. The LAV–25 is a good example of this tradeoff. It is a highly mobile system that has good fire power but minimum ballistic protection.

When we are dealing with joint systems with the Army, we have to make some tradeoffs, as does the Army. In different types of warfare, particularly with central region type focuses, ballistic protection becomes a very significant feature. So the answer is "Yes," that the Commandant's goal of becoming lighter, more flexible, more responsive, and more mobile has driven us to focus on lighter systems, focusing on fire power and mobility as the two key ingredients of those systems.

Senator INOUYE. Was this the rationale for the use in your request from M1–A1 from 476 to 220?

General DAILEY. To 215, yes, sir; exactly. That is the reason.

SOLDIER/MARINE ENHANCEMENT PROGRAM

Senator INOUYE. General Gray also stated that the congressional initiative to fund a soldier-marine enhancement program was used for the continued development of more lethal weapons and improved soldier items. What specific items of equipment are identified under this program?

General DAILEY. There are 12 items included in the program, sir, but they are categorized. One item is an assault weapon of bunker breeching-type explosive that can be rifle-launched. Other items improve the mobility of the individual marine over snow a complete set of equipment that replaces some very old ski bindings and boot combinations.

Another item, the cold weather kit, has been reduced by 30 pounds by using off-the-shelf, state-of-the-art, ski equipment, lightweight tents, sleeping bags, and clothing. Additional items include improved weapons where we have been able to capitalize on available technology to enhance those things that we already have. I can provide a detailed copy of those particular items for the record, if that is acceptable, sir.

Senator **Inouye**. I would appreciate that, sir.

[The information follows:]

The prioritized list of Marine Corps Soldier/Marine Enhancement items is as follows:

1. Rifleman's Assault Weapon/$2.0 Million

A Non Developmental Item (NDI) ordnance item launched from a rifle's muzzle that permits the individual rifleman to breach concrete walls and other urban targets from ranges out to 250 meters and from within protective enclosures.

2. Over Snow Mobility Suite/$3.0 Million

This program will operationally test a suite of state of-the-art individual snow mobility items including skis, ski march boots, poles, bindings, assault snowshoes, and a family of equipment and casualty sleds. The intent of this program is to replace the 1950's technology currently in service with lighter, better snow mobility equipment designed with performance, comfort, and individual preventive injury in mind.

3. Extreme Cold Weather Shelter/$1.0 Million

This program will operationally test an NDI four man, 15 pound tent designed to provide protective shelter in extreme cold weather conditions. This is both a load reduction effort and quality of life/war fighting enhancement initiative.

4. Combat Load Enhancement/$1.5 Million

This program will survey the available state-of-the-art individual equipment used by the armies of the world with the intent of procuring the best of what is available for operational testing. Items included in this initiative include, but are not limited to, flashlights, individual rain protective gear, entrenching tools, lightweight stretchers, and individual shelters. Much of the equipment of this type that is currently in the active inventory is of World War II design. Lighter, more efficient equipment exists and would enhance the quality of life and combat effectiveness of our Marines.

5. Antipersonnel Obstacle Breaching System (APOBS)/$0.95 Million

A man portable, fire and forget, mine and wire neutralization/clearing system that creates a continuous 45 meter long x .6 meter wide cleared foot path. Employed by two men in 30 seconds, the system provides the Marine with a 25 meter standoff from the mine field. This system will replace the bangalore torpedo which has been in service since WWII at a weight savings of 5:1. This $.95 million will be added to the current Marine Corps funding of $1.5 million to accelerate the full scale development (FSD) portion of the program.

6. Reconnaissance Patrolling Insertion/Extraction Equipment/$1.178 Million

This initiative includes a number of associated items that support reconnaissance/raid operations. An example of the type equipment included in this initiative is the small unit water purification unit. That system allows a four man team to live off the land's available water using a one pound unit that provides 10,000 gallons of purified water between filter changes.

7. Special Operations Force Mountaineering Equipment (SOFME)/$0.2 Million

This initiative will procure the necessary systems for an operational test of special climbing equipment. The SOFME provides a light weight system used for cliff assaults and urban scaling operations.

8. Personal Tracking System/ $0.25 Million

These funds will procure and operationally test an individual locator/tracking system that weighs ounces but will permit rescue teams to quickly locate individuals that get lost, separated, or captured during reconnaissance/raid operations.

9. Flame Retardant Assault Suit/$0.2 Million
Hazardous Material Gas Mask/$0.15 Million

These two initiatives go together. Together the system will provide an individual with the ability to survive in an airless, 2,000 degree fire environment for approximately two minutes.

10. Load Bearing Equipment (Assault)/$0.2 Million

Under this initiative, special load bearing equipment for assault/raid units will be procured and operationally tested. The equipment will be light weight, providing only for the portability of the war fighting necessities associated with raid operations.

11. Special Operations Improved Cryptographic System/ $1.0 Million

These funds will provide for the operational test of a new, Non Developmental Item secure voice radio system that weighs 1.5 pounds and is 3.6 x 5.5 x 2.1 inches in size.

12. Small Unit Navigation System/$0.05 Million

Two state-of-the-art systems from two manufacturers will be operationally tested under this initiative. These systems weigh less than five pounds, are 6.5 x 7 x 2 inches in size, and can provide a unit with its position anywhere in the world with an accuracy of plus or minus 25 meters.

ARMY MODERNIZATION

Senator **Inouye**. General Granrud, there is no question that if you compare the infantry platoon of World War II to the infantry platoon of this day one can easily say that the fire power has increased at the minimum twice or maybe three times. Mobility 100 times.

How would you compare the fire power and the mobility of the Army, not the platoon the whole army, of this day and what one 5 years from now with the reductions that we are contemplating?

General **Granrud**. In the future?

Senator **Inouye**. Yes; 5 years from now. With the procurement plans that you have in mind.

General **Granrud**. I think the deployability of the force will remain about the same as it is today. The same kind of weapons systems that we have will be available in the next 5 years. The mobility of the force, particularly of the infantry, will be similar in that we will have all the same lift capabilities available internal to the Army, the UH–60 helicopters. We will improve the force on the ground, the tactical mobility, by the increase of a larger number of M–1's and Bradleys to the total force so that on-the-ground mobility, a tactical agility, will be increased across the total force as you saw on the one slide over there.

The addition of HMMWV's, for example, to the force is a remarkable step forward. That is a very fine vehicle, but in terms of deployability, for example, we would remain pretty much the same, and that is one of the reasons why we are looking to the future in systems like LH and armored systems modernization which has at the center of it not only increased lethality and survivability, but also increased mobility through decreased weight.

So, there is a combination of factors that are operating in the future to bring that down. I think the mobility will not change much in the next 5 years over what we see today. Battlefield flexibility will, however, change.

Senator **Inouye**. If what you have just described is the projection for the future, why are you planning to replace the Bradley with an infantry vehicle that is as heavy as a tank?

General **Granrud**. The armored systems modernization program is one which allows us to put together a combined arms team on the battlefield. That is how we fight. We fight with combined arms. In the past we developed a tank. We developed the Bradley in combination, but not together, as a fighting team. The armored systems modernization will look at both the operational and the developmental processes to, one, develop a most cost-effective way, but allow us to fight on the battlefield more integrated.

One of the things you have to do, of course, is modernize our fleet and by modernizing it, you have to do that with the Bradleys as well as anything else. When we look at the Bradley of the future—we took a look, and we are still in the process of looking at this—we think that it needs at the present time a more competent on-board weapons system, and that is one of the reasons why it will increase in weight. But it also will increase in some protection so it is better able to operate in conjunction with the tank on the battlefield.

I think there is much to be worked in this process, though, and whether it stays at that weight or comes down, I think, is a matter of considerable study over time. The chassis, however, will be the same. The fundamental chassis between the tank and the fighting vehicle will be the same and, thereby, will yield a greater amount of survivability on the battlefield, sustainability as well as the ability to fight together.

ACQUISITION OF AIRCRAFT, ARMY

Senator **Inouye**. Will the projected plan that all of you have require the acquisition of aircraft like the C–17?

General **Granrud**. The C–17 to the Army is a very, very important factor. I have shown you that one of our key considerations is deployability. We have forces in being, the 82nd Airborne, for example, and the 7th Infantry, which depend upon the C–17 and like aircraft in order to move it to whatever location it is required to move to.

So, the modernization of the aviation fleet in the Air Force is very important and vital to the U.S. Army, and we support that.

V–22

Senator **Inouye**. General Etnyre, we are at this stage not quite decided upon the future of the V–22. There are those on this panel who wish to have it continue. There are those who sit there [indicating] who usually tell us that that is a thing of the past. Where do you see the V–22? Is there a place for it in your master plan.

General **Etnyre**. Sir, the medium lift requirement is what we are addressing now in the Marine Corps. Since the Secretary of Defense canceled the V–22, the examinations of what can best fulfill that medium-lift requirement is a matter of debate.

If you are asking my personal opinion, my personal opinion is the V–22 can best satisfy the medium-lift requirement of the Marine Corps.

Senator **Inouye**. Better than a helicopter?

General **Etnyre**. Yes, sir; substantially. It is a technology leap. It allows for strategic mobility because you can self-deploy the aircraft in its fixed-wing mode over long distances, 2,100 nautical miles. That precludes the need for the strategic lift we just talked about in the C–17 because you can self-deploy the aircraft that you will use for your assault. Then you can move more troops or other equipment in the C–17, the C–141, or the C–5A, whatever the case may be, and it reduces the demand on strategic lift.

Senator **Inouye**. So the decision to terminate the V–22 program is not the decision of the Marine Corps?

General **Etnyre**. We understand the decision, and we salute it. I gave you my personal opinion as to what would best fulfill the medium-lift requirement.

Senator **Inouye**. Thank you.

ARMORED GUN SYSTEM

General Cercy, the field commander in Panama, General Steiner, has publicly stated that we should immediately replace the Sheridan with a new light system that he calls the armored gun system. What are your plans to replace the Sheridan tank for the light forces?

General CERCY. Sir, we are in the process of developing a nondevelopmental item acquisition for that. We have done a market analysis to look at what is available. As a matter of fact, the Army has just settled on its requirement that they do, in fact, want an air-droppable system. This is one of the major requirements, so we are looking at those right now.

We have had a couple of meetings looking at potential tradeoffs and the requirements and what is available. So that process is ongoing at this time.

Senator INOUYE. Do you mean that there is something that you can acquired off the shelf?

General CERCY. Well, right at the moment there is nothing that meets the requirements exactly as it is stated, so we are working at tradeoffs back and forth to see what can be done.

Senator INOUYE. When can you advise us as to decision time?

General CERCY. Do you know about the time, Jerry?

General GRANRUD. I would hesitate to give you the precise time. We have validated the requirement and we are now proceeding along a line to take a look at the structure and acquisition programs and set up the office this year.

General CERCY. The way we have structured the program, sir, we would initiate it in fiscal year 1992. So between now and that time we will come to the specifics of exactly how we are going to do that, but it is a continual process right now.

Senator INOUYE. General Granrud, in light of the decisions that we have just announced on the reduction by two divisions by 1991——

General GRANRUD. Yes, sir.

ABRAMS

Senator INOUYE [continuing]. Is your request for 7,789 Abrams still valid?

General GRANRUD. Yes, sir; it is. If you recall the chart I showed you, that included the 1991 buy in those figures. That allowed us to take care of outfitting the force to that number.

Senator INOUYE. So your decision for the 7,789 was made keeping in mind the reduction?

General GRANRUD. That is correct, Senator.

Senator INOUYE. If the Active force was reduced to 13 divisions, how many Abrams would we need to meet this new inventory requirement?

General GRANRUD. I think the answer is the numbers that are in the 1991 budget are indeed the numbers that would be required to match that. Now, it includes fielding to the division itself. It includes the POMCUS stocks that we projected. It also includes the war reserve items that go along with that. So, there are some that are not in use that have to be included. So it would encompass also the requirement for the 1991 buy.

M1-A2 TANKS

Senator INOUYE. General Cercy, the Army plans to procure 62 M1-A2 tanks; is that correct, sir?

General CERCY. Yes, sir; that is.

Senator INOUYE. Yet the Army has asked the committee to reprogram $39.6 million for R&D increases in 1990 and to appropriate another $82.7 million for M1-A2 R&D in 1991. Since you plan only to build 62, why do we need all of this R&D?

General CERCY. Sir, the upgrade from the M1-A1 to the M1-A2 requires the research and development to do such things as provide the commanders' independent thermal viewers so that the tank can engage more systems more rapidly on the battlefield so that the commander, while the gunner is engaging targets, can see other targets and get those prepared for engagement.

It also provides an entirely new electrical power and data bus throughout the system which processes the information more quickly and provides a less vulnerable situation. If the tank is hit, the electronics can still function. So these kinds of things are the things that we are spending the research and development money on to include increased laser range finder capability as well when you go to the block II tank.

Senator INOUYE. So you have plans to purchase more A1-A2's—M1-A2's that is?

General CERCY. No, sir; just the 62 to qualify the production line, and that, sir, give us the hedge on the risk we are taking in this midterm. Should the Soviet situation turn around or anything else turn around in the world where we could have to face tanks as capable as we predict the Soviets will have in the late nineties, then we would go ahead and go back and turn on this block II production line.

Senator INOUYE. Then the capabilities that you described will not be integrated into the 62 production vehicles, will they?

General CERCY. Yes, sir; they will.

Senator INOUYE. They will be?

General CERCY. Yes, sir.

ARMY TANK PLANTS

Senator INOUYE. General Granrud, under what scenarios would the Army's tank plants need to be activated and how long will it take to activate these plants?

General GRANRUD. First, the numbers it would take to reactivate the plant of course depends upon the status of the plant at the time. With the 1991 buy completed the plant, even with only Army production, will stay open through 1993, so you have the line running, although coming down in size through 1993.

If there are foreign sales added to that, then there is perhaps some additional time that could occur. If the plant goes cold, however, and we shut the line down, the conditions under which it would have to be reopened would be ones in which our war reserve stockages would be drawn down at such a level that we would have to reinstitute. That would postulate a very large and long-sustained war, I think.

The amount of time that it would take the plant to reopen is currently under study. We have looked at anywhere from 6 months to 2 years, and I think General McVey and General Cercy, who are in that business, are still in the process of assessing that to see how that would best play out.

There may be some requirement, for example, to put dollars to hold some of the people with special skills together. You may have to keep some of the lines open and in any case, regardless whether you have to reopen the line you have to sustain your suppliers and some of your suppliers for spare parts, so there is some additional robustness that would continue to make that happen.

COMMUNICATIONS INTEROPERABILITY

Senator INOUYE. General Etnyre, one of the most frequent criticisms we hear about joint military actions is the lack of communications interoperability among the services. On page 7 of your statement, you tell us that interoperability of Marine Air/Ground Task Force Command elements with the other services has been enhanced. What have you done to enhance this?

General ETNYRE. We do not have a single radio system that we buy uniquely for the Marine Corps. All the radios that we use right now are procured in commonality with the U.S. Army, and of course that would enhance it. The systems for the aircraft are also common to the Navy. It is the same aircraft that the Navy has. We buy them commonly. General Dailey may want to comment further on the interoperability of that type of radio.

General DAILEY. I would say, sir, that we have always had commonality in terms of radio compatibility, but through the purchase of the SINGARS radio, which has a frequency hopping capability, it allows us to operate with other frequency hopping radios which we were unable to do.

Senator INOUYE. So you can now operate with the Army——

General DAILEY. Yes, sir.

Senator INOUYE. And the Army with the Navy?

General CERCY. Yes.

General GRANRUD. Yes.

ANTITANK SYSTEM

Senator INOUYE. General Granrud, is there still a need for the deployment of an interim antitank system—the manned, portable antitank? It was, I suppose, planned for Europe, was it not?

General GRANRUD. No, sir; particularly, we don't need systems that would be inappropriate for a light force such as a Milan 2 or Bofors Bill. The 82d Airborne, for example, is one force that really requires a light one-man portable system, as does our light infantry. Our medium antitank system must be capable of use across the continuum of warfare. Currently we have the AAWS–M scheduled for production in 1994. In the meantime, we have modified the Dragon/Dragon II in order to carry us through until that time and that is our preferred plan and we think that is a sufficient, satisfactory solution.

MORALE

Senator **Inouye**. The one area that concerns many of us on this panel is the effect these changes—force reduction and such—will have upon personnel. I realize that you are not in the business to assess the attitudes and mood of personnel, but from where you are sitting, how do you assess the mood of the men and women under your command? I have been told, for example, that the level of anxiety is high. The uncertainty does not help morale. Is that assessment correct in the Army and Marines?

General **Granrud**. Senator Inouye, I think there is a great amount of truth to what you have said. We are in the process of transition. People, for example in Fort Hood, who have a good and decent plan to take down the force, are nonetheless concerned about what is going to happen to them, where they are going to go.

The officer corps will be reduced, there is no question about that, and officers know that, so the question of what will be the future of the Army is on many minds, and a matter of some concern. So I think that is an accurate assessment, and it is a matter of great concern to us that we are able to manage and provide information that does not precipitously turn the Army upside down, that we are able to do that—provide information to people—so that they can understand the future and so we can tell them what the future will look like with some degree of certainty; although changed, it does not represent a simple taking apart of the Army. It is very important. We believe that the Army as an institution has to have some vitality, and it has to be portrayed as something that has a future, that has value, because it is in that way that you acquire the competent and skilled officers that you must have in order to operate an Army like ours.

RECRUITMENT

Senator **Inouye**. I realize that you gentlemen are not involved in recruiting, but would the present plans have any effect upon recruiting, say in the Marines?

General **Etnyre**. Yes, sir; that will have an effect on recruiting of both enlisted and officers, because as you plan for a force that is smaller, the key is to build down that force over a period of time in a planned way, rather than a haphazard way. If you do not have the opportunity to make a plan and execute it, then the impact on people is going to be greater and secondarily, combat capability will suffer.

What will happen is, the major way to come to lower end strength numbers in manning your force, be it the Marine Corps or the Army, is to look at your accessions in the coming year, look at the end strength that you are going to be given, look at your normal plan for end of active service, and then those three things have to come together into the equation of the affordable end strength.

In most cases, if you do not have the time to manage the drawdown on the tail end, when people are leaving the service, you have to take it on the front end, and that is the accessions, and so you would have to reduce your accessions substantially or out of proportion. If you spread it over a longer period of time you can manage it through your programs of reenlistment and retention programs so that you do not have to take all of the lower end strength numbers out of your accessions. That gives you a more balanced force, and there is less impact on people who want to come in and people who are already in the service.

General **Granrud**. May I follow up on that, Senator Inouye?

Senator **Inouye**. Yes.

General **Granrud**. It is particularly predominant in the officer accessions, because I agree completely, one of the short-term ways you manage a change in force is to decrease the accessions. You can make up for that in the enlisted—not quickly, but you can make up for that over time.

When you reduce the accessions in officers quickly, you go into a year group, and that year group can never be fixed over the life of the force, because you assess for certain numbers of officers and it stays essentially that way, since there is no midlevel entry into the Army. So you have to be very careful about reducing and managing officer accessions in particular, because of the way you grow officers into the force. So it is a very important subject.

In the Army we have already reduced the accessions for 1990 and are projecting the same for 1991.

FORCE STRUCTURE REDUCTION

Senator **Inouye**. In your statement, General Granrud, you indicated that the Army will reduce its force structure by five divisions in the next 5 years.

General **Granrud**. That is correct.

Senator **Inouye**. Yet, last week, the Army's fiscal year 1992 to 1997 program objectives memo submitted to the Secretary of Defense called for a cut of four. What is it, four or five divisions?

General **Granrud**. Well, the numbers I showed you here go from 28 down to 23, and that is a 5-division cut.

Senator **Inouye**. We were told that your memorandum submitted to the Secretary of Defense called for a cut of four Active divisions instead of five.

General **Granrud**. Well, that is correct. The five divisions are, of course, including two Reserve divisions.

HELICOPTER REQUIREMENTS REVIEW

Senator **Inouye**. General Cercy, the Secretary of Defense has informed the Congress of his intent to conduct a review of helicopter requirements. Can you tell us what specific systems will be under review, and what will be the Army's involvement in carrying out this review?

General **Cercy**. Sir, the review is predominantly to review the light helicopter program that I mentioned in my opening statement and to look at it from the aspect of its operational effectiveness and its cost effectiveness for the future, to look at other systems, if any, that might be competitors to it, and to examine the program fully.

That is ongoing now, sir, and we are participating with the Defense acquisition executive, Mr. Betti, who is running that program right now. They, in fact, just yesterday went out to Mesa, AZ, and visited one of the contractor teams, McDonnell Douglas Bell. They had already visited Boeing/Sikorsky in Philadelphia, so it is ongoing at this time, similar to the major aircraft review that was run looking at the Air Force programs and Navy aircraft.

General GRANRUD. May I follow up on that, Senator Inouye?

Senator INOUYE. Yes.

General GRANRUD. I am personally on the Joint Chairman's operational review of the LH and my deputy, General Forster, who is the Director of Requirements, is sitting full time on the technical side of it. So the Army—and of course much of the data that is being used is data which was generated by the Army, is part of the cost and operational effectiveness analysis for the LH. So I think we are really fully engaged and deeply involved in it.

MULTIPLE-LAUNCH ROCKET SYSTEM

Senator INOUYE. Thank you. General Etnyre, I have been told that the Corps is currently testing the multiple-launch rocket system as a possible enhancement to your artillery support. Now, in light of your light Marine Corps of the future, why do you need something as heavy as this? This will be mounted on the Bradley, will it not?

General ETNYRE. We have changed our plans for the multiple-launch rocket system. We do not feel that we can afford it, first of all, so we are not testing it right now, and our program to borrow a selected number from the Army to make our final determination has been canceled, so we are no longer looking at the multiple-launch rocket system. We need something much smaller, and something more mobile, than the existing multiple-launch rocket system. It is a fine system.

LIGHTWEIGHT 155 HOWITZER

Senator INOUYE. Are you also considering acquiring the lighter 155 howitzer?

General ETNYRE. We are looking very carefully at the lightweight 155. Any artillery support weapons system that lightens the load and is more mobile we are interested in, and we will look at it, on-island or off-island.

General DAILEY. Sir, if I might add, we are participating in a joint evaluation with the Army on the lightweight 155.

Senator INOUYE. Now, you have just completed procurement of the M198 towed howitzer, have you not? Do you still need more beyond that?

General ETNYRE. We completed that buy, I think, 2 years ago. What we are looking at in the lightweight 155 is a replacement artillery system for the 198. It will have a life of a certain number of years. We also are looking at something that we will have the flexibility of equipping our lighter forces when the situation is such that you do not need heavy general support artillery. We need artillery that we can have in direct support of a smaller Marine expeditionary unit. That is why we are looking at the lightweight 155.

Senator INOUYE. I thank you very much, gentlemen, and now I will call upon my reinforcements here.

Senator Stevens.

Senator STEVENS. I have come in late.

Senator INOUYE. Senator D'Amato.

PREPARED STATEMENT

Senator D'AMATO. Mr. Chairman, if I might simply submit a statement for the record, I would yield to the field marshal here. I have several questions for the record that I would like to submit.

If you would accept my statement in its entirety I will yield to the field marshal.

Senator INOUYE. Without objection, your statement will be made part of the record.

[The statement follows:]

STATEMENT OF SENATOR D'AMATO

Thank you, Mr. Chairman. I want to welcome our panel of witnesses. I appreciate your appearing this morning to testify.

The idea of transferring all heavy forces to the Reserves is one of the more interesting suggestions offered by Senator Nunn in his series of speeches on defense policy. The political benefits of such a move are obvious.

A general callup of the Reserves has been politically taboo since Korea. The Vietnam conflict spun out for a decade while the Reserves stood idle. To my mind, the round-out concept is a reaction to that. In essence, the Army was attempting to force a political consensus behind future wars by inserting Reserves units into so-called force package 1 and 2 divisions.

Senator Nunn's proposal takes this one step further. Clearly, any future conflict in which U.S. heavy divisions are committee, especially as forward deployments continue to recede, will require a total national effort to bring force to bear in a timely and effective manner. By manning heavy divisions solely with reservists, their very commitment will require the kind of national consensus that has proven so elusive since World War II. I would be curious to their reaction, gentlemen.

Thank you, Mr. Chairman.

Senator INOUYE. Senator Stevens.

Senator STEVENS. Senator Specter?

Senator SPECTER. I would yield to you, sir.

Senator STEVENS. Off the record.

[Discussion off the record.]

Senator SPECTER. I did not realize Senator Stevens was just a first lieutenant, so I will go ahead of him then.

Senator STEVENS. Be my guest, then. You were here first.

Senator SPECTER. I am kidding. Go ahead, Ted.

SWING CORPS

Senator STEVENS. I do have a couple of questions. One of them was about this swing corps concept that is in your statement, General. I note that is the corps that will be in the Pacific after 1995. It does include Hawaii, Alaska, and Korea.

What does the swing mean?

General GRANRUD. Because you are never entirely sure where a war is going to break out, you have to have some flexibility in your force. All that was meant by swing is that that corps is focused primarily on the Pacific area; but if we should have to go somewhere else, for example, back to Europe in very large numbers and we have to bring in a large number of our Reserve divisions, that corps could become one of the overarching headquarters to take them back as an additional mission. That is what is meant by that.

Senator STEVENS. I can understand that. The Alaska forces could deploy to Europe as well as to Korea in almost the same amount of time. Is that the idea?

General GRANRUD. It could well be, right. Of course, we have to size every contingency with what we believe is the correct number, but you also have to think to the alternatives that might occur which you have to cover with contingencies. That is one of the ways we would do that. It is not an extra corps, obviously. That is the same corps.

USARPAC

Senator STEVENS. Now I should probably ask this of my good friend, General Fields, who is now in your area as I understand it. He is one of the finest officers with whom I have ever worked.

How does the USARPAC concept fit into this plan for your 1995 force structure?

General GRANRUD. We will still have three divisions in the Pacific—a division in Alaska, a division in Hawaii, and a division in Korea.

Senator STEVENS. The corps then is, in fact, the army of the Pacific?

General GRANRUD. That is correct.

Senator STEVENS. They are synonymous?

General GRANRUD. I think that is correct; yes, sir.

Senator STEVENS. Then I understood; good.

FORCE STRUCTURE FOR 1995

You are projecting a force structure for 1995 which is smaller than the existing one by five divisions; right?

General GRANRUD. 135,000 end-strength difference, yes, sir; from 28 down to 23 divisions.

Senator STEVENS. That obviously assumes a manning level. I do not know what the levels are, but it assumes a manning level for the overall strength of those 23 divisions; right?

General GRANRUD. That is a 629,000 end strength.

Senator STEVENS. 629,000?

General GRANRUD. Yes, sir; I cannot remember the Reserve. I think it is 546,000, but I had better not quote that precisely.

Senator STEVENS. That is all on regular duty? You are not talking about Guard or Reserve?

General GRANRUD. No, sir; that is the Active end strength, 629,000.

Senator STEVENS. Is there any debate left on the balance between light and heavy divisions in that 1995 strength level?

General GRANRUD. Not that I know of. That will continue to be a matter of review, but I think our balancing now is about settled. I think we have agreed to that.

Earlier before you came in, in my opening comments I indicated that at that time we would have nine heavy in the Active, four in the Reserve, and six light divisions in the Active, one in the Reserve, with an additional three infantry divisions in the National Guard.

CLOSE AIR SUPPORT

Senator **Stevens**. I am told you have an upcoming choice between an upgraded A–10 and an A–16 for close air support, and there also is an ongoing dispute between fixed wing and rotary wing aircraft for the close air support mission.

Have those issues been resolved as far as you are concerned now?

General **Granrud**. As far as the Army is concerned, Senator Stevens, we have a requirement for close air support. That mission is provided to us by the Air Force and we are satisfied that they can do that job.

The choice for the selection of the means to do so I think is that of the Air Force, and they have indicated the A–16 is their choice. We have looked at the requirements and we believe that that aircraft would in fact provide the kind of close air support and battlefield interdiction that the Army requires.

There are a number of studies that are still ongoing, however, that will become due in the next year.

Senator **Stevens**. I guess, gentlemen, we could go into the V–22 and beat that one up for a while, but I do not know where we would come out.

Senator **Inouye**. We have done that.

Senator **Stevens**. Have you?

General **Etnyre**. The chairman already got me to put my career on the line, sir. [Laughter.]

Senator **Stevens**. I have to tell you. I think I told the chairman. When I talked to the people who were involved, I told them I thought they ought to try to get the Department of Transportation on our side, too.

I come from a State that is still maintaining 176 small airports at considerable cost. That would be substantially reduced. Those costs would be substantially reduced if we had V–22's in civilian use. I can perceive the use of V–22's on smaller naval vessels, to be involved in lifting marines off smaller naval vessels into peacekeeping activities throughout the world.

It just seems to me that that is a system that we ought not to let go by the boards as we are trying to find ways to reduce costs. I think that would reduce costs in the future. It would be a very expensive piece of equipment to acquire, but I do think it is still essential for the future of the force structure that people are talking to me about for the next century. I hope that we can achieve it.

OKINAWA

I had asked before, General, are the Marines going to keep so many people on Okinawa?

General **Etnyre**. Well, we will conform to the CINC's requirement out there as far as staffing the 3d Marine Expeditionary Force on Okinawa. At such time as the CINC directs us to reduce that force for whatever reason, we will be responsive to that direction.

Senator **Stevens**. That is a substantial number of your people, is it not, in one place?

General **Etnyre**. That is the smallest of our three MEF's in size.

Senator **Stevens**. Is it?

General **Etnyre**. Yes, sir.

Senator **Stevens**. I thought the figures we got were higher than that. What are the other two?

General **Etnyre**. One in Camp Pendleton, CA, and the other one at Camp Lejeune. They are both larger in size than the III MEF out in Okinawa.

FUTURE DEPLOYMENT

Senator **Stevens**. I thank you. I have some other questions that I do not think I will ask.

I apologize for being late, Mr. Chairman. I had three other meetings before this one today including the introduction of the new Commandant for the Coast Guard, Admiral Kime. It has just been one of those days, and I am sorry that I was not able to be here to hear this presentation. I am quite interested in this, and I am interested in the future deployment.

That figure that you mentioned, General Granrud, is slightly higher than the doomsday figure I have heard about the lowest level of manning, so sometime I would like to go into what is going to happen if it goes down further.

General **Granrud**. I project that number through 1995. I did not carry it beyond that.

Senator **Stevens**. Thank you.

Senator **Inouye**. Thank you.

Senator Specter.

Senator **Specter**. Thank you, Mr. Chairman.

OVERLAP OF MISSIONS

When the issue arose earlier this week about tactical air power, I raised a question as to the necessity for having similar missions in both the Air Force and the Marines. I would like to return to that subject for a moment or two now because as we take a look at the budget for next year, we are all struggling to find where to make economies in a year when there have been more dramatic changes than I think in any other year perhaps in our history.

Going back to ground zero to figure out what we would do in structuring a Department of Defense if we were to start today without any organization, I do not want to advocate heresy but my question is, Could there be a combination of Army and Marines in terms of basic purpose?

Going through the statements, we have found these categorizations of missions: Army, forcible entry capabilities; Marines, enter forcibly when uninvited. Army, need for a mix of contingency forces; Marines, contingency forces must be built. Army, counternarcotics missions; Marines, support for counternarcotics operations. Army, projection of land forces; Marines, power projection. Army, assist friendly nations; Marines, assist friendly or allied governments. Army, regional peacekeeping; Marines, peacekeeping operations. Army, regional security; Marines, security operations. Army, special operations forces; Marines, special operations capable.

It is practically a total overlap. At the risk of asking an heretical question, why could the Army and Marines not be combined as an economy measure?

Lieutenant General Etnyre, let us start with you.

General **Etnyre**. Well, it is a matter of determining the totality of forces required for this country for contingency operations. There is a threat out there in the world that can be measured, maybe inaccurately but can be measured in some respect, and the Department of Defense should put together a force with a sufficient amount of capability that can conduct contingency operations to satisfy that threat.

We feel that there are completely different purposes in the Army and in the Marine Corps. The Marine Corps is tailored as a naval force to be projected from the sea. It has a secondary capability of being moved by air if that is the choice. Basically, the Marines have trained for 215 years with the Navy to conduct power projection from a sea platform. We feel that the future is going to call for sea-basing operations around the world more than actual forward deployment into host nations.

The total Navy and Marine Corps mission in the future, requires sea basing to support friendly and allied countries or to project power from the sea should that be required. I believe we know how to do it. We know how to project and sustain that power.

Senator **Specter**. General Cercy, is there any reason why the Army could not make projections from sea-based operations?

General **Cercy**. I would like to defer to General Granrud.

General **Granrud**. The simple answer is "No." They would simply be marines with Army uniforms, so what you are really talking about is a proper description of the requirements and the tasks that must be carried out.

Senator **Specter**. I am searching for economies and raising a question. I do not know the answer. That is why we are here. You men know the operations. Senator Stevens and I had the modest rank of first lieutenant. Senator Inouye had a loftier rank.

The question comes up as I look over the purposes and the missions again and again of a tremendous overlap, it seems to me.

General **Granrud**. Sir, I would say there is more overlap in the broad description than there is overlap in the actual tasks that must be carried out. If you carry out a task of an amphibious group afloat, that will not necessarily reduce your total capability because you will still have to have those people. The name they have is incidental to the tasks that must be carried out.

The same thing goes for forcible entry. Forcible entry from the sea is one way of getting there, but if you have an airfield which is deep in the interior of the country, then you must have forcible entry through parachute assault. It is indeed possible for those to be combined in a single force; but nonetheless, the number of people to do that would still be about the same. It would just be the way you named it.

It is a matter of training for a specific task and the way you organize. I think there is far less. I do not think the overlap really exists in the sense that there are tasks to be carried out which are discreet, which must be trained for and for which we have to have expertise. You simply cannot combine, for example, everything into forced entry and say that one group can do that because there are many different ways of doing the task. I think the allocation of skills and the allocation of resources are indeed not redundant.

Senator **Specter**. If you talk about one forced entry, perhaps so, but I would ask you to take a look at this issue in future planning.

EUROPE, NATO, WARSAW PACT

Shifting gears to Western Europe, Eastern Europe, NATO, Warsaw Pact, I see that the projections are there would be considerable advance warning if the Soviets were to mobilize, to move into Western Europe.

General Granrud, what would you say is the general warning time? Is the 60-day figure accurate? Would it be longer or shorter?

General **Granrud**. I would hesitate to give you a figure because that is still under discussion, and I think eventually we will come to some unified position in the Department. It is absolutely clearly different than it was, and it may be, depending upon, for example with the Soviet Union, what level they chose. They could get a smaller number in a quicker period of time, but it would be nothing like the warning times that we have now.

RENUNCIATION OF NUCLEAR FORCES

Senator **Specter**. We have talked about a significant shift in not having nuclear missiles in Western Europe because if they fire they only get so far as Eastern Europe, and now Eastern Europe shows more signs of being friendly. We have a lesser concentration of Soviet forces in an advanced position. We have the indicators that there is going to be much more notice on deployment. We have maintained the policy of not renouncing first strike of nuclear forces because when the Soviets had the overwhelming preponderance we had to have that threat there or else we could be overrun.

With the rapid changes there and the obvious advantages from many points of view of making that kind of a renunciation, what consideration has been given by the Department of Defense to changing that policy?

General **Granrud**. Of course, most recently the President has announced that the Lance missile system, which is our dual capable surface-to-surface system in Europe, would not be modernized; therefore, the system that is there will not have increased range.

Senator **Specter**. I am talking about renouncing first use of nuclear in Europe.

General **Granrud**. Sir, in my position I would not give you an answer because it is more of a political argument. The arguments that you gave——

Senator **Specter**. More of a political argument?

General **Granrud**. More of a political argument on how we——

Senator **Specter**. Are we as competent on this side of the table?

General **Granrud**. It is a combination. You properly laid out the reasons why first use had been one of our strategies, large numbers of Soviet forces and our ability, therefore, to overcome. I think that has changed. I think your characterization is very accurate and it does require a relook. The Army has to take a look at that because we have to ask ourselves the question if we continue with a requirement for a surface-to-surface capability to support our corps commanders.

In Europe it may be changing, but, as you know, in other parts of the world there is a growing capability in many of the developing nations for long-range tactical missiles and the potential—clearly not the capability now, but the potential—to add to those, chemical and to even possibly nuclear warheads. So there is a continuing debate that is going to have to go on to answer that question with some clarity.

Senator SPECTER. Mr. Chairman, I would like to submit some additional questions in writing, if I may. The hour is late.

I thank you very much, gentlemen.

ESPIRIT DE CORPS

Senator INOUYE. Gentlemen, the question that Senator Specter has asked is one that many of my colleagues discuss in the Cloakrooms. I am on your side. I believe that in addition to the differences in missions and training programs, there is another element which may not be very significant, an element called unit history, unit legends, heroes, esprit de corps.

If you begin retiring these banners and their shoulder patches, I think it may have an effect upon performance of duty and such. I would hope that we keep in mind these things.

For example, I was hoping that the Army would keep at least one company of cavalry. That was the thing that stirred us up in Hawaii whenever the Army went on parade. Many other countries have horse cavalries——

General GRANRUD. Sir, I have a couple of mules down in Fort Sill that we could use.

Senator INOUYE. We could do better than that. [Laughter.]

General GRANRUD. As a matter of fact, we do have a small unit, a ceremonial unit, the 1st Cavalry down at Fort Hood, that does still have a small element of calvary that they use in parades exactly for the reasons you have mentioned.

Senator INOUYE. I am glad to hear that.

Senator STEVENS. If you would like to come to Alaska, we now have a troop of mounted Boy Scouts that use the old Fort Eggbert up on the Yukon River. That was the calvary detachment and we would like to keep its history alive.

Since I have interrupted you, let me say that it is perhaps the vintage of the chairman and me——

Senator INOUYE. We are senior citizens now.

Senator STEVENS. We remember that the esprit de corps that comes from identity with a unit. We hear our colleagues talk about competition in the private sector, but they do not quite seem to understand that there is a competition between the marines and the infantry, there is a competition between the Navy air arm and the Air Force which I think is healthy.

As long as we eliminate the redundancy in equipment and we try to go toward standardization of armaments on supplies, I am one who believes that competition is still a valid element of military service and it would yield to getting the best military for the lowest cost.

I know we are going to explore it. The Senator has every right to explore the concept of unification. We have been down that road before, however, and I for one believe that we ought to do our best to maintain, as the chairman indicates, some of the traditions of our country through our military service.

You gentlemen represent two of the finest that I know.

Senator INOUYE. I think we will still have the Marines and the Army because Senator Stevens and I outrank Senator Specter. [Laughter.]

I look upon the next decade as one of the most challenging this Nation will be facing and potentially an extremely dangerous decade. I say this because while we are having reductions in forces the Third World countries are having no reductions. They are increasing their forces, if anything. They are acquiring more sophisticated weapons, and now as we reduce our forces we are going to have a surplus of equipment. I suppose much of that surplus will find its way into the armed forces of Third World countries.

The rhetoric that we hear today is getting a bit more intense and I do not suppose that we can avoid these conflicts that will flare up in other parts of the world. I would anticipate in the next decade a greater involvement in what you call low-intensity and midintensity-type engagements. So what we have been trying to do this morning as far as I am concerned is extremely important, just as important as the strategic forces of our country.

So I hope that you gentlemen will keep close touch with us because as we move along this is one area in which I as chairman of this subcommittee do not wish to make any mistakes. So I thank you very much for your involvement this morning and your contributions. We look forward to working with you very closely.

ADDITIONAL COMMITTEE QUESTIONS

We will submit the balance of the questions for response in the record.

[The following questions were not asked at the hearing, but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO THE ARMY BY SENATOR INOUYE

RETIRING OLDER WEAPONS SYSTEMS

QUESTION: Senator Nunn has proposed that the Army and Marine Corps retire older weapons systems now--such as M-60 tanks, Vulcan air defense guns, eight inch howitzers, and OH-58A aircraft. In his April 20 speech to the Senate, he stated that it is not cost effective to keep these systems in the force, and "as budgets and forces shrink the least valuable military equipment should be scrapped." General Cercy, what is your reaction to Senator Nunn's statements?

ANSWER: We strongly support the proposal that older weapon systems be retired. Our modernization strategy is that as new weapon systems are furnished to units that are "first to fight," displaced equipment, in turn, is used to replace equipment that is beyond economic life, war reserve stock, or retired. For example, as the number of active-component armor battalions is reduced, the M1 main battle tank will be redistributed to reserve component units to replace M48 and M60 series tanks.

QUESTION. I assume that the 1990 and 1991 budgets still request procurement and operation and maintenance to supply and repair these systems. For the record, would you please provide the Subcommittee with an estimate of the budgeted amounts (be specific, by appropriation amount) for the Army.

ANSWER. The amounts Army is currently budgeting in 1990 and 1991 for the M-60 Tanks, Vulcan guns, eight-inch howitzers, and OH-58 A/C aircraft is as listed below.

	FY 90		FY 91	
	OMA	Procurement (Spares)	OMA	Procurement* (Spares)
M-60 Tanks	$27.6M	$8.2M	$26.5M	0
Vulcan	$21.3M	$5.4M	$22.8M	0
8 in Howitzer	$10.9M	$2.0M	$10.2M	0
OH-58 A/C Aircraft	$84.8M	$2.8M	$87.6M	0

*Procurement spares become stock funded in FY 91.

QUESTION. Which of these systems will the FY92 budget propose phasing out of the system?

ANSWER. We plan to target selected systems for retirement immediately. As an example, the M48A5 main battle tank, the GAMA GOAT, the GOER, the M123 ten-ton Tractor, and the 2 1/2 Ton gasoline-powered truck will be retired during FY90. In addition, M151 and M880 trucks, Towed Vulcan Air Defense System, M60-series main battle tank as well as the OH58 Kiowa, CH54 Tarahe, UH1 Iroquois, and AH1 Cobra helicopters will begin to be retired. Those retired first will be beyond economic life. Specific quantities retired each year will depend on the retirement mode selected (for example foreign military sales or property disposal) and our ability to provide replacement systems.

SALE/TRANSFER OF EXCESS EQUIPMENT TO ALLIED COUNTRIES

QUESTION. Gen. Granrud, the Department of Defense has proposed giving the Government of Egypt M60A2 tanks from Europe, which are being displaced as a result of the fielding of M1A1 tanks in Europe. As the Army force structure continues to decline, will there be additional proposals from the Department to transfer excess equipment to allied countries?

ANSWER. As a result of the Army tank modernization program, M60A1 series tanks located in Europe were declared excess and offered to friendly foreign countries and allies. Under the provisions of the Southern Region Amendment, 700 of these tanks were transferred to the Government of Egypt to replace Soviet equipment. Army equipment which becomes available as a result of force structure changes will be redistributed to other active forces, the Army Reserve, and National Guard units. Equipment which is excess to Army requirements could be offered for sale/ transfer to allied countries.

M1 TANK

QUESTION. General Granrud, the Army is considering a plan to convert basic M1A1 to the M1A2 configuration. With the likelihood of a major Central European tank engagement with the Soviet Union being close to zero, do your force requirements studies justify a need for additional heavy tank forces?

ANSWER. Development and limited production of the M1A2 is still critical to the Army modernization efforts, and will continue as originally planned. Producing 62 M1A2 tanks and proving tank capability overmatch of the best threat tank, a keystone in the Army's overall modernization program. Even though the Soviets have stated publicly and privately they would reduce their tank production from 3000 vehicles per year to 1700 per year, leveling off at 800 per year later, we see no evidence that the Soviets will stop selling tanks to client states or other regions of the world. We believe the Soviets will attempt to proliferate their tanks in the Middle East and Asia as a means to obtain hard currency. The Soviet tank is a quality tank and is still the base upon which the U.S. Army must measure its tank capability. Development and limited production of the M1A2 is a key part of our preparation for world wide contingencies. At this time we have no plant to convert M1A1 tanks to additional M1A2s.

QUESTION. How many tanks would the Army convert? What are your cost estimates?

ANSWER. The Army, in response to congressional inquiries, is looking at the cost and feasibility of converting and retrofiting the current Abrams tank fleet to increase its capability. However, the Army is not examining these options as a means of keeping the assembly operations of DATP open, but to maintain a warm tank production base and respond to congressional issues. If the decision to continue forward with the retrofit is made, then substantial budget reprogramming must occur. The Army does not have an approved program and the POM does not contain TOA for this program.

QUESTION. Does this mean that the Army intends to retain 3,200 M1 tanks with 105 millimeter (MM) guns? Will these M1 tanks become the main battle tank for the National Guard and Reserve?

ANSWER. Yes, our modernization program combined with potential force reductions in Europe and CONUS will free sufficient numbers of M1 tanks to issue to Reserve Component forces. O&S costs are reduced with the one MBT system.

ARMORED GUN SYSTEM (AGS) - LIGHT TANK

QUESTION. The Committee has been informed that the Army needs a total of only 70 Armored Gun Systems to replace the Sheridan light tank. Is 70 vehicles the total Army requirement?

ANSWER. The Army is currently studying the total requirements for the AGS. The initial production of 70 systems is a near term solution to replace the aging fleet of M551A1 Sheridan Armored Reconnaissance Airborne Assault Vehicles in the XVIII Airborne Corps. The Training and Doctrine Command is developing the Operational and Organizational (O/O) Concept for the AGS and once this concept is completed and approved, the Army will have identified the far term requirements for a follow on buy of the AGS. The O/O concept is anticipated to be completed 4th QTR FY90.

QUESTION. Has the Army initiated a Required Operational Capabilities (ROC) study for the AGS? When will it be completed?

ANSWER. Yes. The AGS revised ROC was validated on 6 April 1990 and will be completed and approved no later than 2d QTR FY91.

QUESTION. The Committee understands there is much discussion and disagreement within the Army on whether or not the Armored Gun System should be capable of being "Air Droppable." What is the user asking for and what is the impact of such a requirement?

ANSWER. There is no disagreement in the Army that the Armored Gun Systems going to the XVIII Airborne Corps must be air droppable, and that additional AGS requirements outside the XVIII Airborne Corps, would not be constrained to the requirements of an air droppable system. The Training and Doctrine Command, the user, is asking for one battalion out of the total AGS requirement to be air droppable. The impact of the air drop requirement is that the airborne configured system will have a lower level of armor protection to meet the air drop weight requirement.

QUESTION. Could the Marine LAV 105 assault vehicle meet the Army's requirements for a Armored Gun System? What would be the advantages in selecting the Marine LAV 105 in terms of cost and commonality?

ANSWER. The Army has reviewed the Marine Corps stated requirement for a new light armored assault vehicle and has determined that the roles and missions, as well as the minimum acceptable deployability criteria, were not acceptable to meet the Army's requirement for an Armored Gun System. The key differences between the two system requirements lie in the method of deployment. The Marine Corps' Light Assault Vehicle-Assault Gun (LAV-AG) program is designed to meet their unique deployability requirements for having an assault gun capable of amphibious assault operations (swim) and being airlifted by their primary heavy lift helicopter (CH-53E). The Army's Armored Gun System (AGS) must be capable of being rapidly deployed for contingency operations world-wide, while being compatible to the unique operational requirements of the XVIII Airborne Corps. To meet the operational and deployability requirements, the AGS must be designed for Low Velocity Air Drop (LVAD) with the primary means of delivery being by C-130, C-141B and C-17 aircraft. The LVAD requirement sets a weight limit of 35,750 pounds and system dimensions of 92.5 inches high. The Marine's LAV-AG has a weight limit of approximately 29,000 pounds in order to be airlifted by their CH-53E. To meet Army AGS armor protection levels the LAV-AG would require added armor which will exceed the 29,000 pounds lift limit required by the Marine Corps. This added weight is required to bring the protection level up to approximately the same level as the M551A1 Sheridan, the 30 year old vehicle the Army wants to replace. Furthermore, the additional armor needed to meet the AGS protection requirements would increase the LAV-AG weight beyond its maximum design weight limit capability (32,000 pounds) and requires additional design and modification work. The LAV-AG system has a basic chassis height of 73 inches. A 105mm turret would add a minimum of 27 inches for a total height of 100 inches. This height exceeds the maximum height requirement (92.5 inches) to conduct LVAD operations and the LAV-AG would require further design changes to meet this LVAD requirement. There are certain inherent advantages in both cost and commonality if the Army and the Marines buy the same system. There would be RDT&E cost for only one system and a combined Army and Marine buy would increase the number of systems to be procured reducing the unit costs per system. The advantages in commonality would be in the procurement of support equipment, tools, spare parts, etc. The Army would certainly want the same system the Marines are procuring if it met the AGS required operation capability and performed the unique XVIII Airborne Corps missions.

Planning for Future War

General Granrud, according to GAO investigators, DoD planners have made little attempt to develop a meaningful list of threat priorities that would assist planners to determine what specific scenarios, tactical situations, and weapons to prepare for. In only a very limited number of cases, they concluded, was a specific location identified in the context of the possible use of U.S. forces in combat, and, in all such cases, the statements of probability were either vague or indeterminate.

QUESTION. Do you agree with this assessment?

ANSWER. No. The Department of Defense (DoD) and the Services are actively evaluating scenarios for possible conflict. Substantial effort is being put forth to design plausible, demanding scenarios to guide the development of force structure, operational concepts, and weapons systems. This work is occurring through a series of DoD studies such as the Major Aircraft Review, the Total Force Policy Study, and the Southwest Asia Policy and Strategy Review. Through the Joint Strategic Planning System (JSPS), which is the Chairman's primary tool to assist the Secretary of Defense and the President in providing strategic direction for the Armed Forces, similar efforts are underway. Examples include: Scenarios for the 90s and the Joint Strategy Review. Further, specific intelligence assessments are in progress: the Army Global Forecast, and a wide range of National Intelligence Estimates (NIEs).

Scenarios for the 90s, the DoD illustrative planning scenario set, will be forwarded to the Chairman for approval upon completion of staffing. Following his approval, this scenario set will be forwarded to the Secretary of Defense. The GAO investigators are correct in that the scenario set is not specific; it is not intended to be. It is not designed to be predictive, nor is it to be construed as strategy. The DoD scenario set is designed to show a plausible range of strategic uses of U.S. conventional forces. The ultimate objective is to assist Services, CINCs, and Agencies in planning and programming to attain the capability to respond to approved types of contingencies. The scenario set provides common criteria to coordinate Service requirements for forces, readiness, sustainment, mobility, and prepositioning.

The Joint Strategy Review, which initiates JSPS for the FY 94-99 cycle, contains an Intelligence Assessment of the Strategic Environment, 1990-2010. This threat assessment, prepared by the Defense Intelligence Agency (DIA), serves as the baseline for Services, CINCs, and Agencies to do their planning. It presents a projection of the likelihood and potential causes of conflict in different regions, and the threat to U.S. forces associated with each.

The Army Global Forecast: Likely and Alternative Conflict Environments, 1990-2010 is a specific example of a Service attempt to project where conflict may occur. This analysis, presently in draft, portrays the global distribution of power in the 1990-2010 timeframe with the aim of identifying where where conflict may occur. This forecast determines the specific region in which conflict is most likely.

NIEs are conducted with the full participation of the Joint Staff, the Services, the CINCs, and the Agencies. NIEs provide considerable detail concerning the likelihood of conflict. Specific examples include: NIE 4-1, Warning of War in Europe, NIE 42/14.2-90, The Military Balance in Korea: 1990-1995 and NIE 42/14.2-2-90, Warning of War in Korea.

QUESTION. What do you believe are the most likely areas of conflict over the next 5 years and the type of tactical situations the Army should be preparing to encounter?

ANSWER. The most likely areas of conflict involving U.S. forces over the next five years include the Middle East/North Africa, the Korean peninsula, and Latin America. The possibility of a terrorist/insurgent threat also exists in the Philippines. These areas are critical to the U.S. in that we maintain important political, economic, and military interests in these regions.

Many of these nations are, however, bastions of radical anti-American sentiment and have a historical propensity for violence. Key factors influencing this assessment include intense regional competition for resources, proliferation of sophisticated weaponry, rising nationalism, and increasing irredentist claims. The significance of these trends is highlighted by the fact that approximately one in four nations around the globe is engaged in some sort of conflict.

The tactical situation facing U.S. Army forces would vary considerably depending upon the region to which forces were deployed. Operations in the Middle East would be characterized by mid- to high-intensity operations with threat forces possessing armor heavy units spearheading large infantry assaults. The region is characterized by tremendous firepower and a willingness to use chemical munitions and ballistic missiles. Conflict in Korea would be characterized by extremely heavy armor, mechanized infantry, and artillery forces (the current ground forces of North Korea exceed those of the U.S. Army). Latin America would present U.S. forces with a range of threats from terrorists and insurgents to combat experienced, mostly light infantry forces with various indirect fire systems.

QUESTION. In your capacity as Assistant Deputy Chief of Staff for Operations and Plans, what do you believe to be the extent of the Soviet threat, or the threat of Soviet-inspired conflict, in the developing world?

ANSWER. Even with the conclusion of a CFE agreement, and the implementation of "defensive sufficiency," the Soviet Union will retain the largest residual military force structure in Europe. Soviet strategic nuclear forces will remain substantially unaffected by the European security process; however, global power projection capabilities will be substantially reduced. Soviet internal unrest and economic disruptions have greatly diminished the likelihood of Soviet intervention in developing regions of the world (barring a direct threat to Soviet vital interests in border regions or a serious threat to the lives of Soviet citizens).

The Soviet penchant for using arms sales as an enticement to Third World leaders has been replaced by a greater willingness to use more traditional instruments of influence, particularly diplomacy and political action. This is largely the result of limitations placed on Soviet foreign policy options resulting from a floundering economy. Likewise, the admitted economic failure of communism has severely reduced its attractiveness as an alternative model for economic development. Communism has, in essence, become a defunct ideology. Thus, the likelihood of Soviet-inspired conflict in the developing world has similarly ebbed, but not disappeared.

QUESTION. Which of the following conditions in the world today do you believe constitutes the greatest threat to U.S. national security: nationalism; religious fundamentalism; illegal narcotics; chemical, nuclear, biological, and missile proliferation; energy boycotts; terrorism; communism; the decay of communism; economic competition; and technology transfer?

ANSWER. In the period under consideration the threat posed by the proliferation of chemical/nuclear/biological and missile capabilities confronts U.S. Army commanders with the potential for mid- to high-intensity combat situations in several areas of the world, most notably in the Middle East region. Maturation or further improvement to existing capabilities in this highly volatile region augur for the possibility of genuine inter-regional strike capabilities being achieved by several unstable and unpredictable regimes. This threat is closely followed by that posed by illegal narcotics trafficking/narcoterrorism on an international scale which not only threatens the national fiber of the U.S., but constantly holds forth the possibility that U.S.

military forces may be called upon to intervene in any one of several regions of the world. The other conditions listed could certainly threaten specific U.S. national interest, but are not likely to threaten our national security in the next five years.

In the future, a major factor determining the success of both U.S. domestic and foreign policy will result from our ability to manage change. This is particularly evident with regard to such serious long-term threats as the potential erosion of the U.S. industrial base and its concomitant effect on our ability to compete in a global economy. In addition, competition for shrinking energy and mineral resources will shift some of our security concerns from an East-West to a North-South perspective. Already in developing nations, a backlash has occurred against perceived Western interference in national resource utilization and environmental matters. These factors acting in concert, or separately, could result in serious challenges to U.S. national interests throughout the world.

QUESTION. In which of these areas do you believe the U.S. Army has a role to play?

ANSWER. The Army fulfills essential strategic roles to preserve preeminent U.S. national security interests. As an instrument of national power in peace or war, the Army, in conjunction with the other Services underwrites the security of the U.S., its allies, and other friendly nations. For this reason, Army forces have either a direct or indirect role to play with regard to each of the areas listed above, since each could lead to conflict. For example, to counter violence resulting from an outbreak of nationalistic tensions, forward deployed Army forces in Europe perform a stability role. In Korean however, Army forces are deployed alongside Republic of Korean forces primarily to deter an attack by the North Korean People's Army. In the event of hostilities in Korea, Army forces would switch from a deterrent to a warfighting role.

NO DOCTRINE OF LOW INTENSITY CONFLICT (LIC)

QUESTION. What is the Army mission statement for Low Intensity Conflict (LIC)?

ANSWER. There is no mission statement for LIC in the Army, nor should there be. LIC is comprised of different types of operations -- support to insurgencies/counterinsurgencies, combatting terrorism, peacekeeping operations, and peacetime contingency operations. The military develops operations plans for the purpose of conducting war or contingencies, at the direction of the National Command Authorities (NCA), to promote or protect U.S. national interests. In many cases, the Army will be required to conduct either indirect or direct action in LIC. Indirect operations are characterized by non-belligerent actions such as medical, engineering, or training and advisory support. Direct operations is combat. What makes LIC different from conventional military action is that the necessary actions of the other elements of national power (political, economic, and informational) are essential to success. Military action is most often conducted in support of the other elements of national power.

QUESTION. Why has the Army been able to devise a mission statement for low intensity conflict acceptable to all services?
ANSWER. As previously stated, the Army does not have a mission statement for LIC (insert #30).

QUESTION. In the absence of any warfighting doctrine for low intensity conflict, how do we know what force structure and requirements are necessary?
ANSWER. The Services will soon have joint doctrine for LIC, Joint Publication 3-07, due to be released for evaluation in August 1990. The Army already has doctrine for LIC -- Field Manual 100-20, Military Operations in Low Intensity Conflict, December 1989. In order to determine what additional force structure and requirements may be necessary for operations in LIC, the Army has initiated the LIC Concept Requirements Study. This study is being conducted by the Training and Doctrine Command and is designed to determine what "LIC unique" force structure, materiel, training, doctrine, and leader development requirements there are for conducting LIC operations.

QUESTION. How does low intensity warfare differ from land warfare?
ANSWER. Low intensity warfare is a GAO term and is not used in the Department of Defense. GAO's definition of LIW according to their recently released report on the subject, is those times in LIC when the military is employed in combat. In LIC, direct use of the military (in combat) should be rare. However, when it does occur, the military will normally be employed in a conventional manner. For the Army, that means that the tenets and principles of AirLand Battle will apply. However, combat is only a small component of LIC and may be used, as in Panama, to achieve specific objectives which can only be accomplished through the use of armed force. LIC is more of a political-socio-economic struggle where the military is primarily in a supporting role. Without the necessary and integrated political and economic support, nations will ultimately fail in their endeavors in LIC.

QUESTION. What are we looking at as a combined force structure for low intensity conflict?
ANSWER. When directed by the National Command Authorities (NCA), the Army operates independently, or as part of a joint (two or more U.S. Services), or combined (two or more countries) force. Operations in LIC are situation dependent. There are four operational categories of LIC--support for insurgencies/counterinsurgencies, combatting terrorism, peacekeeping operations, and peacetime contingency operations. Each is conducted differently. However, each requires an interagency effort, often with the Department of State in control. The embassy's country team is the focal point for coordinating the efforts or multiple agencies in a specific country, including the military.

At the regional level, other than the unified combatant command, there is no U.S. organization for coordination of LIC operations. This does inhibit actions which cross country boundaries.

NO DOCTRINE OF LOW INTENSITY CONFLICT (LIC)

QUESTION. The Army has its Special Forces, the Navy has its SEALS, the Marine Corps has its Special Operations Capable Forces, and the Air Force has its Special Operations Assets -- Does the United States need all this duplication in capability?

ANSWER. As each service has specific missions, so does each Service's Special Operations Forces (SOF). These capabilities are complementary rather than duplicative. Each are highly trained organizations with unique skills and specific missions. These assets are designed to provide the theater CINCs with the unique capability which they will need in the land, maritime, and aerospace environments.

ARMY INVENTORY OBJECTIVES

General Granrud, the Army has announced its intention to reduce force structure by approximately 35,000 personnel per year over the next five years. This represents a cumulative reduction of 175,000 personnel and an end strength of 629,000. Changes in equipment and inventory requirements should change as a result of these reductions.

QUESTION. How have inventory objectives changed in relation to the planned force reduction?

ANSWER. Although the exact force structure is still unknown, the Army has started taking steps to reduce the procurement of spare parts. It uses several different methods in the requirements determination process to accommodate the changing force structure. We have already started using a Program Change Factor (PCF) which will reduce the projected demands to reflect a proposed smaller force; this will be replaced by actual end item densities once the actual downsized force structure has been determined. We are also implementing the Weapon System Supply Performance Analyzer (WS/SPA) which will compute stockage factors based on the essentiality of the part to the weapon system. We are reexamining our Safety Level Model to ensure the Army's investment in the stockage level reflects the minimum investment necessary to maintain the readiness goals of the Army. The Army is continually looking for ways to streamline and enhance the stockage requirements with the least dollar investment and will continue to give these types of initiatives the highest priority.

Army Force Structure Reductions

QUESTION. How many divisions will the Army be eliminating in the next five years?

ANSWER. Proposals to reshape the Army have been made in the FY90/91 Budget and FY92-97 Program Objective Memorandum (POM); this includes reducing a number of divisions. During FY90/91 the Army proposes to inactivate the 2d Armored Division at Ft Hood, Texas and change the 9th Infantry Division at Ft Lewis, Washington into a Motorized Infantry Brigade. Also, proposed budget reductions would cut, in FY91, one brigade of the Army National Guard's 42d Infantry Division, New York and one brigade of the 50th Armored Division, New Jersey. Additional division reductions are in the FY92-97 POM; however, it's still undergoing DOD review and the decision making process by which the Secretary of Defense and the President resolve issues and develop recommendations for submission to the Congress.

Army Force Structure Reductions

QUESTION. Have guidelines for force structure reductions been approved by the Secretary? Will additional reductions be forthcoming?

ANSWER. The Defense Planning Guidance for FY92-97 provides both the national military strategy and the guidance on forces and capabilities necessary to execute the strategy. Based on this guidance, the Army prepared a Program Objective Memorandum (POM) which included alternative force structure reductions necessary to meet resource constraints imposed on the Army. Force structure reductions beyond those currently under consideration would depend on whether the threats against U.S. interests continue to decrease and/or imposition of additional resource constraints during the budgetary process.

M1A2 R&D

QUESTION. Continuation of the Block II M1 tank R&D program -- and the production of the 62 Block II tanks -- is based on your stated concern that a major war of extended duration and very high intensity might occur before the totally new Block III tank is fielded. Is the likelihood of such a war occurring seen as likely, highly likely, or not very likely according to the intelligence community?

ANSWER. [Deleted]

QUESTION. Which nations -- except the U.S.S.R. -- could realistically carry out such a war against the U.S.?

ANSWER. [Deleted]

QUESTION. You estimate a 6-month to 2-year period for reactivating the Block II production line. Previous estimates have been much longer. What accounts for your reduced estimate?

ANSWER. Currently the two tank plants operate at a minimum economic production rate of 60 tanks per month (720 tanks/ year), and will ramp down in 1991 to a minimum sustaining rate of 43 tanks per month (516 tanks/year) assembled at one tank plant. The tank production surge rate is 120 tanks per month, which under the current and 1991 production scenario could require from 6 months to 2 years to attain, dependent to a large degree in availability of long lead material.

When tank production stops, the tank plants are laid away, and the industrial base goes cold, the situation changes. The planned start up of tank production is the Block III tank low rate initial production beginning in FY 99. If Abrams M1A2 tank production has to resume before then, but under other than national emergency conditions, the length of time to start up the production lines is dependent upon the quantities and types of long lead materials stockpiled before the production base goes cold, availability of a trained work force, and willingness of industry to reconstruct the necessary vendor base. The tank plant closure study will include an analysis of this aspect. Preliminary analysis, however, indicates that under ideal conditions, it will take 24 months for the first tank to be produced. The most likely scenario is 48 - 60 months to produce the same quantity and quality of tank as we do today.

COMBAT PERFORMANCE OF U.S. HARDWARE

In recent low intensity conflicts, current U.S. defense hardware exhibited numerous instances of unsuccessful employment or significant limitations. According to a recent GAO study, serious performance problems have occurred against modern, sophisticated Western weapons, against unsophisticated Soviet and other systems, and in the absence of a highly stressful hardware environment. Against higher quality opposition, additional and more severe U.S. problems and shortcomings can be expected.

QUESTION. Has the Army reached the same conclusions as the GAO in its analyses of these conflicts?

ANSWER. No, the Army does not agree with the GAO conclusions concerning current Army capabilities to operate successfully in low intensity conflicts. Existing Army heavy, light, and special operations forces are trained, equipped, and capable of conducting operations within the four broad categories of low intensity conflict (LIC)--support for insurgency/counterinsurgency, combatting terrorism, peacekeeping operations, and peacetime contingency operations.

GAO uses the term Low Intensity Warfare (LIW), which it defines as a subset of Low Intensity Conflict (LIC) in which U.S. Armed Forces are directly and substantially engaged in combat. This definition applies to LIC when describing a role for forces in counterinsurgency or peacetime contingency operations; however, it is important to note that in many instances U.S. forces face conventional threats when executing peacetime contingency operations. Consequently, acquisition of weapons for conventional combat operations and subsequent employment of forces are done in consonance with a more conventional approach to combat (i.e., Airland Battle Doctrine as opposed to LIC Doctrine). LIW at times can be considered a sub-set of LIC; however, in many instances it is better equated with conventional war.

The GAO Study focuses on four specific operations which provide only a limited perspective on the full range of potential LIC contingencies currently faced by U.S. Armed Forces. Lessons learned from past experiences do provide useful insights; however, the study fails to assess changes in training, doctrine, and force structure which have occurred as a result of analyzing the lessons learned from previous operations.

The success of Army heavy, light and special operations forces during Operation JUST CAUSE (Panama) clearly demonstrates the versatility of our forces and their inherent ability to conduct operations in low intensity conflict.

QUESTION. Why, after eight years of the Reagan military build-up are we still haunted by the technical and tactical failures of Vietnam?

ANSWER. The Army is not haunted by technical and tactical failures of Vietnam. Technically, the Army is in much better condition than it has ever been. We have vastly superior equipment, manned by well-trained troops and backed by an excellent support system. The Army fielded the Abrams tank, the Apache and Blackhawk helicopters, the Bradley Fighting Vehicle and Patriot Missile system, which are major successes. We are also developing new weapons systems and technologies which will continue to provide technically sound, affordable and reliable systems. This will enable the Army to successfully counter current and future worldwide threats. The Army was not a failure in Vietnam. We are responding to new global environments and realigning resources to maintain a well balanced mix of light, heavy and special operations forces to be able to respond to any adversarial situation. The Army has applied, and will continue to apply lessons learned during combat and training operations to refine its doctrine, structure and training methods. As an example, lessons learned during operation URGENT FURY in Grenada were applied during the recent, resoundingly successful operation JUST CAUSE in Panama.

QUESTION. Does this mean that our armed forces are not, as yet, ready to handle low-intensity conflicts?

ANSWER. No. As previously mentioned, the recent performance of Army heavy, light, and special operations forces during Operation JUST CAUSE (Panama) attest to the fact that our forces are trained, equipped, deployable, and ready to face the challenges posed by a myriad of threats in a variety of low intensity conflict (LIC) scenarios.

The employment of Army forces and their associated weapons systems are based on the given threat scenario and assigned missions. Appropriate doctrine and corresponding tactics, techniques, and procedures have been developed to guide the actions of commanders in support of their objectives. Although doctrine is authoritative in nature, it requires judgement in application. Consequently, in combat, the situation can change rapidly causing the commander to employ weapons systems in a manner not always consistent with their exact design specifications--this decision may degrade the weapons systems' optimum effectiveness and increase its vulnerability to enemy countermeasures. Additionally, the performance of weapons systems are also affected by rules of engagement (ROE) which at times restrict the ability of U.S forces to employ weapons systems in the manner which they were designed. Shortcomings in weapons systems performance are important to document; however, it is more important to remember that successful mission completion is contingent on more than just weapons systems performance.

QUESTION. Are any steps being taken to reduce US dependence on high technology combat systems, and a return to more conventional, proven, reliable and cost-effective systems?

ANSWER. The Army is not taking any steps to reduce US dependence on high technology combat systems and return to more conventional systems. We are, however, taking steps to ensure that the technology being developed for emerging and future weapons systems is proven, affordable and reliable. In addition to concentrating resources on developing the Army Key Emerging Technologies, which are a functional subset of the DOD Critical Technologies, the Army is emphasizing the use of Advanced Technology Transition Demonstrations (ATTDs) as risk reducing proof-of-principle demonstrations. ATTDs are conducted at the system or major subsystem level, in an operational environment rather than in the laboratory, and demonstrate the potential for new or enhanced military operational capabilities. The capabilities of potential threat systems, including regional conflicts and limited operations, are becoming increasingly sophisticated and lethal, and the US Army must exploit technology to counter these threats. ATTDs permit exploration of technical options and eliminate unpromising technologies in the early stages of a program to ensure higher probability of success in the transition to weapons system development and procurement. ATTDs also allow both the materiel developer and user to work together to develop a more informed requirements document which will result in a more affordable and more reliable weapons system. The Army has traditionally relied on advanced, technologically superior weapons systems and will continue to do so in the future. Within limits, our policy risks hardware rather than manpower in a conflict. We will invariably put fewer personnel at risk and compensate with technologically superior weapons.

ROTARY WING AIRCRAFT FLEET REQUIREMENTS

QUESTION. General Cercy, considering the changes which have occurred in the Army's planned force structure, is it likely that the Cheney review will recommend purchase of additional Apache or AHIP helicopters.

ANSWER. In his April 23, 1990 interim response to Congress, Mr. Cheney states: ". . . I am in the process of conducting a major review of our rotary wing aircraft fleet requirements, capabilities, and acquisition options. The review involves the AH-64 and the OH-58D aircraft. I will be better able to assess our requirements for the two aircraft when this review is completed in mid June. . . ." A prediction prior to completion of the study would be premature and speculative. Currently, there is no change to the procurement objectives for APACHE (807) and OH-58D (243).

APACHE FORCE STRUCTURE

QUESTION. What is your total requirement for Apache helicopters and what portion of that is not planned to be filled?

ANSWER. The funded AH-64 procurement buys 807 aircraft providing sufficient Apaches to resource an attack helicopter warfighting force of 40 battalions. Of these, 26 are in the Active Component, 12 in the National Guard, and two in the US Army Reserves.
This provides AH-64s for all heavy divisions and all corps. Each of these units is authorized 18 Apaches. The plan is to equip the RC AH-64 units with 15 aircraft each initially, while providing 18 to each AC unit. This prudent economic strategy will provide sufficient aircraft up front for training and float accounts. When force structure reductions are implemented, AH-64s will be re-distributed in accordance with DA priorities to AC and RC units. The procurement of 807 AH-64s will meet total force structure requirements today and in the future.

ROTARY WING AIRCRAFT FLEET REQUIREMENTS

QUESTION. What is the impact of planned force structure reductions on the Army's Aviation Modernization Plan?

ANSWER. The Army Aviation Modernization Plan was last updated in 1988. A 1990 revision is due to be published following the July Aviation Systems Program Review chaired by the Vice Chief of Staff, Army. Announced force structure reductions have not impacted on the plan, since assets affected will be re-positioned in the aviation force.

QUESTION. Do you anticipate the requirement for Apache or AHIP helicopters will shrink due to impending force structure reductions?

ANSWER. No. The Army's requirement for Apache and OH-58D Armed helicopters will not decrease due to impending force structure reductions because production of both aircraft was terminated before completion of the originally planned quantities. Today, the Total Army force structure includes 40 AH-64 helicopter battalions with a procurement objective of 807 Apaches (down from 47 battalions and 975 aircraft). Of these, 26 are in the Active Component, 12 in the National Guard, and two in the Reserves. This provides AH-64s for all remaining Active and Reserve heavy divisions and all Corps. Each of these units is authorized 18 Apaches. The plan is to equip the Reserve Component AH-64 units with 15 aircraft each initially, while providing 18 to each Active Component unit. Fielding Reserve Component units with 15 Apaches initially was the result of terminating the Apache program. This prudent economic strategy will provide sufficient aircraft up front for training and float accounts. As additional force structure reductions are implemented, we will backfill additional AH-64s to the RC units.

The Army requirement for OH-58Ds is 507 aircraft, after the proposed force structure reductions. OSD has limited the procurement objective to 243. This number provides an interim capability that partially redresses Army Aviation's number one deficiency - finding and engaging the enemy at night and in adverse weather. The OH-58D will provide this capability until the LH is fielded in adequate numbers. To accomplish this, OH-58Ds are being removed from the Field Artillery Observer role and are being armed with Air-to-Ground weapons. The Armed OH-58D Warriors will then replace aging, obsolete OH58A/Cs and AH-1s in the Army's high priority reconnaissance/cavalry units and in the attack helicopter battalion of the 82nd Airborne Division.

LIGHT HELICOPTERS LHX/AHIP

General Cercy, the Army has committed to an LHX helicopter unit cost of $7.5 million in 1988 constant dollars. This estimate was based on a production rate of 216 helicopters and a procurement of 2,100 helicopters.

QUESTION. Considering the low quantities that the Army will buy due to force structure reductions, what is a more realistic unit cost? What is the Army's latest program requirement?

ANSWER. The Demonstration/Validation (Dem/Val) program objective is to achieve the best Light Helicopter (LH) system which meets the 7,500 lbs combat empty weight and $7.5 (FY88 $) million unit flyaway cost for 2096 aircraft at 216 per year peak rate. On-going force structure alternatives do include potential lower quantities and production rates for the LH Program. Every alternative under consideration maintains the light fleet replacement concept for the LH, with total quantities not sufficiently below 2096 to cause a significant perturbation in program economics. We will continue to require that competing LH industry teams pursue performance/cost/weight tradeoffs to achieve the best aircraft system to meet program goals. It must be recognized that LH will be procured at economic rates throughout the acquisition cycle.

The LH Full Scale Development solicitation will emphasize submission of industry proposals that provide the Government the most value for the least cost. This will be heavily weighed during source selection. Subsequent to source selection, future budgetary documentation will be modified, if necessary, to reflect minor adjustments for the cost associated with the winning LH design.

QUESTION. If the cost per unit remained at $7.5 million, then what capabilities would need to be eliminated or reduced from the Mission Effectiveness Package (MEP)?

ANSWER. Competing industry teams have been provided LH requirements and instructed to conduct performance/cost/weight trade studies to provide the Army the best system which achieves the 7,500 lbs combat empty weight and the $7.5 million (FY88 $) unit flyaway cost objectives. Further, they have been provided a detailed description of source selection weighting for each area. The Army is confident that each industry team will provide a competitive design that meets or exceeds future warfighting needs well into the 21st Century.

QUESTION. Why does the LHX Full Scale Development (FSD) program require six prototypes?

ANSWER. The Light Helicopter (LH) Full Scale Development (FSD) Test Program requires a minimum of six prototypes in order to adequately test and evaluate the LH weapons system during FSD. These critical prototype resources have been allocated to the following mandatory FSD qualification and testing:

(1) Structural prototype will be used for flight envelope expansion; flight loads testing, vibration; aeroelastic/aeromechanical stability; structural demonstrations; and height/velocity testing. Includes 330 contractor flight hours and 100 government flight hours.

(2) Flight controls prototype will be used for automatic flight control system development and qualification; and flight and handling qualities testing. Includes 295 contractor flight hours and 100 government flight hours.

(3) Mission Equipment Package (MEP) prototype will demonstrate individual and collective MEP components and configurations; includes helmet mounted display, target acquisition and pilot night vision systems; serves as test aircraft for Early Unit Test and Experimentation (EUTE) and Initial Operating Test and Evaluation (IOT&E). Includes 450 contractor flight hours and 300 government flight hours.

(4) MEP integration prototype will focus on avionics/navigation and high speed data buss integration; complete total systems integration demonstration and evaluation; will serve as EUTE/IOT&E test aircraft. Includes 200 contractor flight hours and 300 government flight hours.

(5) Armament prototype will do total weapons system integration testing; will be an EUTE/IOT&E test aircraft. Includes 295 contractor flight hours and 100 government flight hours.

(6) Performance and propulsion prototype will demonstrate individual performance elements; establish baseline for specification compliance; powerplant/rotor/drive train installation and performance testing. Includes 280 contractor flight hours and 100 government flight hours.

QUESTION. What are the costs of keeping both teams through FSD and down-selecting after full prototypes have been built and tested?

ANSWER. To keep both teams in competition throughout a flyoff will add $1.6 billion to the RDT&E program.

LIGHT HELICOPTER (LH)

QUESTION. Why go forward with both Armed AHIP and LHX -- won't one armed light helicopter be enough?

ANSWER. The program to arm the AHIP gives the Army a limited, short term solution to its most severe aviation deficiency, the inability to see the battlefield at night or in adverse weather. The LH is the long term solution to this deficiency and will carry us into the 21st century.

The basic OH-58D was produced in the 1960s and even with extensive modifications, has limited growth potential. In addition, the OH-58D is limited in its ability to perform its mission in high altitudes under hot temperatures. Survivability is limited and was not built-in, but added on.

The OH-58D is 1960s technology, modified to counter 1980s threat and is marginally adequate. The LH is 1990s technology designed to counter the 21st century threat and survive.

QUESTION. Would the purchase of additional AHIP helicopters be an acceptable alternative to developing LHX?

ANSWER. No. The OH-58D Warrior is limited in both performance and survivability. Although it has a sophisticated mission equipment package, the 1960s airframe has limited growth potential and the aircraft cannot perform its mission adequately in high altitudes under hot temperatures. In addition, the airframe provides minimum ballistic, electronic, and chemical protection and has a signficantly larger radar signature than LH. The OH-58D was not designed to counter the threat anticipated on the future battlefield. The LH is the long term solution.

LONGBOW

QUESTION. Considering changes in Europe and the Army's plans to deploy Longbow on LHX anyway, why do we need to proceed now with the $3.4 billion Apache Longbow program?

ANSWER. The Longbow system increases the current AH-64's combat capability by providing an adverse weather, fire and forget precision attack capability. The capability of the Longbow Apache is increased significantly over the Apache helicopter by increasing lethality and survivability. Longbow includes a fire control radar and missile seeker system that increases the Apache's lethality by pinpointing targets from greater distances day or night through adverse weather and battlefield obscurants and allowing fire and forget engagement from concealed positions. Survivability is greater as the Longbow system decreases the time Apaches are exposed to increasingly sophisticated air defense systems. Development of the Longbow Apache provides the Army with a mid-term system capability of defeating the threat prior to fielding the LH and the next generation of anti-armor systems. Apache Longbow fielding in the mid-90's also partially compensates for early termination of M1A2 tank production. The armor threat has not evaporated with the changing world, even though the risk of conflict with the Soviet Union has diminished. The 3rd World and regional powers are oriented on armor and air defense; i.e., Iran, Iraq, Syria and N. Korea and the U.S. needs a deployable adverse weather anti-armor Apache in the near term. It also needs the Apache Longbow for contingency operations and to provide long range, precision, direct fire in built-up areas as shown in Panama. The Longbow Apache will provide this heavy firepower in a deployable, lethal and survivable force. The Longbow system will improve the Apache capability for the next 20 years or more and provide a heavy force complement to the LH. The LH will not replace the Apache helicopter but will replace the aging fleet of OH-58A/C, OH-6, and AH-1 helicopters. About 1/3 of the LH fleet will be equipped with an improved version of the Longbow and the Longbow will further enhance LH target acquisition and engagement.

QUESTION. Our understanding is that integrating the Longbow onto the LHX will require the type of mast mounted radar currently planned for the Apache Longbow. Obviously, this configuration will compromise the LHX's weight, speed and radar survivability. Won't the Army have to redesign the Longbow for the LHX?

ANSWER. The LONGBOW Light Helicopter (LH) version will add approximately 200 lbs to the overall empty weight of the aircraft. The extra weight and drag is estimated to reduce the LH dash speed by approximately 15 knots, if not downsized for LH application. If downsized, the resultant dash speed reduction would be less. However, it must be emphasized that with LONGBOW integration, LH will continue to retain agility/maneuverability, speed characteristics, and low observability superior to existing systems. The increase in adverse weather target acquisition capability for those selected LONGBOW LH's makes a significant contribution on the battlefield. Emerging cost and operational effectiveness results indicate that the slight degradation in air speed performance does not adversely affect combat effectiveness; in fact, the usefulness of LONGBOW far outweighs the slight performance degradation.

QUESTION SUBMITTED TO THE ARMY BY SENATOR BYRD

QUESTION. General Granrud, the United States Army currently has in its force structure seven different types of divisions (armored, mechanized, motorized, infantry, light infantry, airborne and air assault). Army plans now call for the elimination of three of 18 active divisions. As the Army reduces its end strength and adjusts to changes in the international security environment, does it still believe that so many different types of divisions (with all their unique training, equipment, and organizational requirements) are required? Please submit for the record the rationale supporting the need for each different type of division.

ANSWER. The Army is composed of a combination of US-based and forward-deployed heavy, light, and special operations forces distributed between the Active and Reserve Components. It is designed to be versatile, deployable, and lethal. The types of divisions and other smaller organizations, through their unique capabilities, provide the US Army the flexibility to respond to specific crises.

Heavy forces consist of armored and mechanized infantry divisions designed to fight and win on a mid to high intensity battlefield. They provide mobile, armor-protected firepower. Because of their mobility and survivability, they are employed over wide areas such as found in Southwest Asia where they are afforded long-range and flat trajectory fire. Although lighter than the heavy divisions, the infantry division, with its mechanized capability, also can conduct sustained operations. It is primarily employed, however, in terrain favoring dismounted operations, such as large urban areas.

Light forces provide a versatile capability immediately available to the National Command Authority. The light division provides strategic flexibility through its capability for rapid deployment. Recent events in Panama make it abundantly clear that rapid deployment will become even more valuable as both a combat multiplier and deterrent. In the future, the US will have to maintain an ability to conduct forced entry operations. In many contingencies, a forced entry will only be possible by airborne assault. Army airborne and ranger forces are uniquely capable of performing this function. Air assault forces provide the capability to strike the enemy over extended distances and terrain obstacles with a high degree of tactical mobility.

The Army's structure is carefully tailored within manpower and fiscal constraints to optimize its warfighting capabilities against the multiple and varied threats of the international environment. The reduction of the motorized division to a brigade is an example of the Army's acknowledgement of fiscal and threat realities.

As we shape the forces needed for the future, we are taking into account the need for a sustained land combat capability worldwide, other land force roles, and ongoing East-West negotiations for reducing conventional forces in Europe. The types of divisions and other organizations in our force structure support this need and provide integral parts of the heavy and light forces which can be configured and tailored to a focused threat and level of conflict.

QUESTIONS SUBMITTED TO THE ARMY BY SENATOR BUMPERS

2.75 INCH ROCKETS

QUESTION. General Granrud, this subcommittee was told by the Marines that they were way short of the number of 2.75 inch rockets that they needed. Is the Army short of its war reserve and training requirements?

ANSWER. There are four 2.75" rockets for which the Army has both war-reserve and training requirements, and one for which there are war-reserve requirements only. There are two other rockets which the Army uses only to support training. Two of the four war-reserve/ training rockets have stockage levels at approximately 100% of the war-reserve and training requirements; the war-reserve unique rocket is supported 100%. [Deleted]

training requirements for these two rounds are supported at 0% and 50%, respectively (approximately 28 thousand rounds total). The requirements for the two training-unique rounds (Multi-purpose Submunition, practice; Signature, practice) are supported at 67% and 91%, respectively (short approximately 33 thousand rounds overall).

Shortages of 2.75" rockets have been a problem for the past two years, primarily due to the adverse impact on propellant-grain production resulting from the May 1988 explosion at Radford AAP. Although Radford is back in production, shortfalls in propellant and MK-66 rocket-motor igniters continue to pose problems. The situation is projected to be resolved by late FY92.

LAND WARFARE

QUESTION. In your testimony you mention Joint Stars as a primary system for deep operations targeting. I understand it will cost about $8 billion to procure the Air Force aircraft and Army Ground Stations which make up the system. Does it make sense to spend so much on a Surveillance system which, flying along the inner German Border, could see only into East Germany and Czechoslovakia? Would it make more sense to put the money into Surveillance systems which are not optimized specifically for a European scenario, such as Unmanned Aerial Vehicles (UAV's)?

ANSWER. JSTARS is not a surveillance system developed specifically for a European Scenario. The long range, wide area, near-real-time surveillance and tracking capabilities of the JSTARS are critical to executing Airland Battle anywhere in the world. The JSTARS, and the Army Ground Station Modules, are deployable to support our forces across a wide spectrum of operations. The Joint System Operational Requirements Document (JSORD) for JSTARS was written to address a worldwide commitment. The requirements expressed in the JSORD include input from each of the Unified and Specified Commands and have been validated by JCS through the Joint Requirements Oversight Council. Warfighting CINCS continue to have an urgent need for an airborne wide-area surveillance and target acquisition radar system capable of continuous coverage out to a depth of Commanders must have the capability to detect, locate, classify, and track moving targets for situation assessment, to avoid surprise, and to attack targets out to the range of existing and developing weapons. [Deleted]

Additionally, JSTARS will detect and locate rotating antennas and operating helicopters. Wheeled and tracked targets can also be differentiated at these ranges to assist in prioritizing targets. The wide area surveillance of JSTARS is even more important in support of smaller forces defending a relatively larger area. As we execute significant troop reductions in Europe post-CFE, there will be significant Soviet troop movements and instability. Our thinned out forces must have early indications and warning and accurate and timely tracking/ classification data. In the event of hostilities, the wide area surveillance of JSTARS is ever more important in support of smaller forces defending a relatively larger area. Similarly, any involvement in the Middle East would need the capabilities of the JSTARS -- both for looking deep and avoiding surprise on the flanks. The UAV cannot replace the wide area MTI capabilities found on JSTARS. UAV is designed to complement JSTARS to cover areas masked by terrain. To expect UAV's to preform the wide area surveillance function of JSTARS would require multiple UAV's and a complex communications architecture to support dissemination.

QUESTIONS SUBMITTED TO THE ARMY BY SENATOR D'AMATO

M1A1 RETROFIT

QUESTION. The Army is considering a proposal to upgrade M-1s and improved M-1s to the M1A1 configuration. What would be the advantages and disadvantages of such a program?

ANSWER. At the request of the Congress at recent hearings, the Army has conducted a preliminary analysis on the feasibility of retrofitting the existing Abrams tank fleet in lieu of new production. There is not, however, an Army or Department of Defense program for such a retrofit, and it was not included in the Army POM 92 submission and addendum. Three tank retrofit options have been briefed to Congressional Staffers; an upgrade of the M1 and IPM1 tanks to an M1A1, M1A1 to an M1A2, and M1 and IPM1 to an M1A2. All options included a major rebuild to the upgraded tank. Initial results of the analysis seem to indicate the following: The M1 to M1A2 provides the greatest improvement in overall fleet effectiveness and supports the largest industrial base, but is the most expensive. The M1A1 to an M1A2 provides a modern tank to the forward deployed forces, but is the second most expensive option. The M1 to M1A1 is the least expensive, but does not provide the force with the most modern tank available. As more information is developed the Army will make the pertinent information available.

LAV-105 AND AGS

QUESTION. Why aren't the Marines and the Army working together to design a Light Armored Vehicle 105 that meets the requirements of the Marines, Airborne/Airmobile units, and the Army's Light Divisions.

ANSWER. The Army has reviewed the Marine Corps stated requirement for a new light armored assault vehicle and has determined that the roles and missions as well as the minimum acceptable deployability criteria were not acceptable to meet the Army's requirement for an Armored Gun System. The key differences between the two system requirements lie in the method of deployment. The Marine Corps' Light Armored Vehicle-Assault Gun (LAV-AG) program is designed to meet their unique deployability requirements for having an assault gun capable of amphibious assault operations (swim) and being airlifted by their primary heavy lift helicopter (CH-53E). The Army's Armored Gun System (AGS) must be capable of being rapidly deployed for contingency operations world-wide, while being compatible to the unique operational requirements of the XVIII Airborne Corps. To meet the operational and deployability requirements, the AGS must be designed for Low Velocity Air Drop (LVAD) with the primary means of delivery being by C-130, C-141B and C-17 aircraft. The LVAD requirement sets a weight limit of 35,750 pounds and system dimensions of 92.5 inches high. The Marines LAV-AG has a weight limit of approximately 29,000 pounds in order to be airlifted by their Ch-53E. To meet Army AGS armor protection levels the LAV-AG would require added armor which will exceed the 29,000 pounds lift limit required by the Marine Corps. This added weight is required to bring the protection level up to approximately the same level as the M551 Sheridan, the vehicle the Army wants to replace. Furthermore, the additional armor needed to meet the AGS protection requirements would increase the LAV-AG weight beyond its maximum design weight limit capability (32,000 pounds). The LAV-AG system has a basic chassis height of 73 inches. A 105mm turret would add a minimum of 27 inches for a total height of 100 inches. This height exceeds the maximum height requirement (92.5 inches) to conduct LVAD operations.

LAND WARFARE

QUESTION. General Granrud, how will halving the C-17 buy impact Army contingency operations?

ANSWER. The impact of the reduction includes: a decrease in responsiveness for rapid depl~~oyment;~~ reduces the capability for rapid build up and sustainment of combat forces; a reduction of flexibility for air drops and intra-theater support.

LHX

QUESTION. Is it an overstatement to say that the LHX competition has within it the seeds of destruction for at least 2 of the 4 major helicopter manufactures in that: 1) there is a significant period between the termination of current Army helicopter lines and the beginning of LHX production, 2) the current requirement, geared to a significant European presence, is overstated when considered context of current events, and 3) the competition is winner take all?

ANSWER. UH-60 production will continue well into the next century. The AH-64 Apache received an appropriation in FY 90 to buyout the remaining 132 aircraft of the total 807. Current plans call for contract award in two phases, May 1990 and November 1990. Apache production will extend through December 1993. The initial Light Helicopter (LH) production contract will be awarded in November 1994. The first Light Helicopter production delivery is planned for March 1996. The "production gap" between AH-64 and LH is from December 1993 to March 1996. However, it is likely that Apache sales to other governments will reduce the gap or result in no gap at all.

LH is not geared only to the Central Europe scenario. A key aspect of the LH design is its exceptional versatility. Given that rapidly changing world political environment, it is vital that the Army have the means to counter a multiplicity of possible threat scenarios, from Special Operations, low intensity conflicts through high intensity conflict. The LH will provide this capability. It is a leap-ahead improvement over the current fleet of Army helicopters. It will provide more lethality, versatility and deployability, with reduced support costs, when compared to all feasible alternatives.

Any weapon system competition has a winning design. In the LH case, the winner will be a team composed of many major corporations. The losing design will also be a team composed of many major corporations. It is unlikely, given total business base diversification, that any participant would be "destroyed" by losing the LH competition. The contractual LH efforts completed so far have provided every manufacturer a basis for new technology development which surely will enhance their future business opportunities.

QUESTION. My understanding is that, avionics aside, LHX performance falls within the parameters of the current generation of helicopters. Considering the cost of the program, why aren't we asking more of the airframe?

ANSWER. The Light Helicopter (LH) airframe represents a leap-ahead technology advancement over the current generation helicopters. The LH design advances airframe capabilities commensurate with technology to provide significant improvements in lethality, versatility and deployability. The increased cruise speed, self deployment capability, high maneuverability and agility, signature reduction (radar cross section, infrared, visual and acoustical), protected anti-torque system, composite airframe materials for greater strength and lighter weight, fly-by-wire/light flight controls, and built-in test and diagnostics represent major advances in airframe technology as compared to any previous helicopter program. These advances will directly translate to unprecedented gains in operational capabilities.

QUESTION. If it is true that we have reached the physical limits of helicopter performance, why isn't the Army skipping a generation, as it is doing with the M1, and marrying the mission equipment package to whatever new type of airframe that replaces the helicopter?

ANSWER. Clearly we have not reached the limits of helicopter performance that are important for the tactical scout, attack missions of Army aviation. Alternative airframe technologies that have been analyzed for the LH mission include tilt rotor, tile wing, x-wing and the advancing blade concept. All were found to have significant shortcomings in meeting mission and program requirements as well as being much heavier and more costly. The 1987 RAND Corporation and Institute for Defense Analyses independent assessments of alternative light helicopter technologies, commissioned by the Office of the Secretary of Defense, concluded that the advanced technology helicopter was the best solution to the Army's requirement. It should be noted that the alternative technologies are not "advanced." Each has been around for some time - over thirty years for the tilt wing. All have major inherent limitations which restrict practical usefulness for the Army's requirements.

LIGHT HELICOPTER

Question. Is it comparing apples and oranges to question why the LH will survive on the battlefield of the future when the A-10 won't? If so, please explain the difference in airframe or tactics that lends to the survivability of the LH.

Answer. Yes, it is apples and oranges even though the LH and A-10 both fly, are manned, and can deliver lethal ordnance. Each aircraft system has been optimized to meet different battlefield requirements. They are technological generations apart and they were designed to meet different generations of threat.

The A-10 is a 1960's technology Air Force Fixed-Wing aircraft designed for Close Air Support (CAS). It was built to carry a variety of heavy ordnance payloads, to be capable of loitering on station, and visually (by FAC or pilot) acquire and attack targets in close proximity to friendly forces during daylight visual weather conditions. The A-10 is employed as a theater commanders fire support asset.

In the twenty years the A-10 has been in the inventory, the U.S. and potential adversaries have refined warfighting doctrine. The missions are more diverse and the battlefield is more lethal due to application of technology and proliferation of arms. The Air Force, in modernizing to meet Army requirements and defeat the threat, has examined its constrained force structure. Experience and numerous and intense studies have dictated a replacement for the A-10 aircraft. The A-10 would not be effective performing CAS/BAI on a non-linear battlefield, cannot fight at night or during adverse weather conditions and be responsive and still survivable.

The LH is a 1990's technology rotary-wing aircraft designed for armed reconnaissance and attack missions in support of Army ground forces. It has an inherent air combat capability. It is designed to be responsive and survivable. It has the capability to fight at night and in adverse weather as a member of the "combined arms" team. It uses the terrain, but is not restricted by it. It carries a diverse array of armament to include precision anti-armor weapons. It is not required nor designed to carry the six ton loads of ordnance, nor travel cross theater at high speeds as can a CAS/BAI aircraft. The LH is designed to use agility and terrain as a sanctuary, not speed.

As an armed recon platform, the LH is designed to see, report, and develop the situation for the ground commander. It can protect the commander's force from a flank and air threat as well as perform as an anti-armor attack element. To enhance survivability, fixed-wing aircraft's speed was traded for agility in order to utilize Nap-of-the-Earth (NOE) flight to capitalize on the protection of terrain. In a Joint Air Attack Team (JAAT) role, the LH will be used to designate targets for artillery and CAS assets, and suppress enemy air defense.

Survivability is built into the LH as an integrated package. The integrated package includes aircraft agility, low observables, hardening, battlefield situational awareness, accurate navigation, system redundancy/reliability, crash worthiness, protected tail rotor and increased target acquisition and weapons rates and ranges. Integration of the mission equipment and survivability capabilities cannot, as a whole, be added to existing aircraft to achieve equal results for the same costs.

The Air Force must replace the A-10 with a modern aircraft like the F/A-16 for CAS/BAI. The Army must replace the current aging fleet of OH-58 A/C, OH-6, and AH-1 with LH for reconnaissance and attack. Both the Air Force fixed-wing CAS/BAI aircraft and LH are required complementary systems to overmatch the future threat.

JSTARS

QUESTION. What changes, if any, do you anticipate in requirements for JSTARS in a POST-CFE Environment?

ANSWER. JSTARS is not a surveillance system developed specifically for a European Scenario. The long range, wide area, near-real-time surveillance and tracking capabilities of the JSTARS are critical to executing AirLand Battle world wide. The JSTARS, and the Army Ground Station Modules, provide deployable support to our forces across the operational continuum. The Joint System Operational Requirements Document (JSORD) for JSTARS was written to address a worldwide commitment. It includes requirements from each of the Unified and Specified Commands that have been validated by JCS through the Joint Requirements Oversight Council. Warfighting CINCS continue to have an urgent need for an airborne wide-area surveillance and target acquisition radar system capable of continuous coverage out to a depth of from the sensor. Commanders must have the capability to detect, locate, classify, and track moving targets for situation assessment, to avoid surprise, and to attack targets out to the range of existing and developing weapons. Our reduced forces must have early indications and warning and accurate and timely tracking classification data. In the event of hostilities anywhere in the world, the wide area surveillance of JSTARS is even more important in support of smaller forces defending a relatively larger area. For example, any involvement in the Middle East would need the capabilities of the JSTARS -- both for looking deep and avoiding surprise on the flanks. JSTARS' deep targeting and situation development capability is also critical to U.S. contingency operations and support to our allies.

NON-LINE OF SIGHT

QUESTION: By all accounts, NLOS/FOG-M is one of the Army's most promising development programs. Why was production deferred?

ANSWER: The great potential of this dual capable weapon system (anti-helicopter/anti-armor) is well recognized within the Army, especially in the context of a rapidly deployable force armed with weapons capable of handling any contingency. However, with the current changes in the world situation, the Army reevaluated the degree of concurrence between development and production in the NLOS program. As a consequence the Army delayed the start of production for NLOS. This now allows all development and technical/operational testing to be accomplished prior to the start of full scale production in FY 94.

QUESTION SUBMITTED TO THE ARMY BY SENATOR SPECTER

SOF CV-22A AND MH-47E AIRCRAFT

QUESTION. If the V-22 Osprey program were reinstated, would you consider foregoing the planned procurement of 51 modified CH-47E medium helicopters planned for use by the Special Operations Forces and instead equip these forces with the V-22.

ANSWER. No. The stated DOD requirement for Army MH-47E SOF medium/long range helicopters was 51 aircraft both prior to and after the cancellation of the V-22. Prior to the V-22 cancellation these 51 Army MH-47E helicopters were to have been used in conjunction with 55 USAF CV-22A SOF varients of the V-22. Subsequent to the cancellation they are now scheduled to be used in conjunction with 41 USAF MH-53J SOF helicopters. In accordance with Public Law and Congressional direction, any future determination of SOF aircraft requirements is now in the hands of CINCSOC. In making any such determination he will undoubtedly give full consideration to such key factors as the results of his exhaustive Joint Mission Analysis (JMA) of all SOF requirements; significant changes in the world political/military situation; declining resource levels; any change in the status of the V-22 program; and the availability/capability of other SOF aircraft such as the MH-47E and MH-53J.

QUESTIONS SUBMITTED TO THE MARINE CORPS BY SENATOR INOUYE

MARINE CORPS M-1 TANK PROGRAM

Question: General Etnyre, last year the Marine Corps testified that it planned to procure 476 M1A1 main battle tanks for fielding to all active and reserve Marine units. In this year's budget request, the Marine Corps will now only procure 221 M1A1's. How have your requirements changed such that you no longer need the full 476 tanks required for complete replacement of all M60 tanks?

Answer: In line with developing a smaller, quality force, we have revised the force structure of our tank battalions. Correspondingly, we have amended our M1A1 tank procurement to support the revised structure. The revised force structure calls for equipping two active tank battalions, three maritime prepositioned ships suites, and associated training and support activities (equipment allowance pool, operational readiness float, and maintenance float) with 215 M1A1 main battle tanks. The remaining tank units under the old structure will be deactivated and all M60A1 Rise Passive tanks in our inventory will be turned over to the Primary Inventory Control Activity (PICA) as excess.

Question: General Dailey, last year Congress appropriated $120.3 million in advance procurement for 255 M1 tanks for fiscal year 1991 procurement. Now that the Marine Corps has decided not to procure any tanks in FY 1991, what does the Marine Corps propose to do with this excess appropriations?

Answer: The actual amount appropriated in fiscal year 1990 as advance procurement for the FY 1991 tank program was $111.3 million. These funds have been included in a Department of Defense proposed reprogramming action to offset shortfalls in the Military Personnel Appropriations.

Question: General Dailey, some have suggested that since the Marine Corps can not afford to procure the full 476 M1A1 tanks required to replace all M60 series tanks, it would be better for the Marine Corps not to field any M1's. This would prevent the logistical problem associated with having just a small number of M1's in the force. Has the Marine Corps considered not fielding the M1 series tank?

Answer: Our M1A1 tanks will be fully supportable as a portion of the larger population of Army M1A1 tanks which utilize the same components and logistics support concept. Our reduced fielding, therefore, will not generate additional logistical problems and related costs. Inasmuch as the Marine Corps' mission covers the entire spectrum of conflict, we continue to have a valid requirement for a state-of-the-art main battle tank. The M1A1 fulfills this requirement. The M60A1 Rise Passive (R/P) tank currently lacks the capability to defeat the potential threat. In addition, the M60A1 has reached the end of its service life and requires increased funds to operate, support, and maintain. Consequently, our inventory of obsolete M60A1 R/P tanks will be declared excess and replaced with a reduced number of M1A1 main battle tanks.

MARINE CORPS ARTILLERY

Question: General Etnyre, can you give the Committee an update on the Marine Corps' plans for fielding of the Army's Advanced Field Artillery Tactical Data System (AFATDS)?

Answer: The Marine Corps is committed to fielding AFATDS and is actively involved in all aspects of program management. R&D and PMC funding has been allocated for this purpose. AFATDS will be fielded to battalion and higher units involved in conducting the fire support missions with version 1 fielding beginning in 1995.

SPECIAL OPERATIONS FORCES

Question: Does the Marine Corps envision a special operations role for itself beyond the limited "in extremis" contingencies referred to by General Gray in his earlier testimony before this committee?

Answer: Special operations by definition, are operations conducted by specially trained, equipped and organized forces. Marines typically are task organized into Marine Air-Ground Task Forces (MAGTFs) that possess an inherent capability to conduct selected special operations which include:

Amphibious raids
Specialized demolitions
Airfield seizures
Non-combatant evacuations
Long range surveillance and reconnaissance
Signals intelligence and electronic warfare
Mobile training teams
Riverine operations
In-extremis hostage recovery

All of our deploying Marine Expeditionary Units, Special Operations Capable (MEU, SOC) are trained and equipped to perform these operations.

Question: Why is it necessary for the Marines to assume a mission which is already being filled by teams under the authority of USSOCOM?

Answer: The Marine Corps has not assumed any new missions but rather enhanced our training to be better able to respond to the possible taskings of the warfighting commanders in chief or the National Command Authority. The only new mission that we have trained for is the in-extremis hostage recovery mission. This training is not designed to compete with dedicated national counter terrorist forces but is conducted to provide an alternate force in the event national assets are either unavailable, or unable to respond in sufficient time. This in-extremis force trains to the same tasks, conditions and standards as established by USSOCOM and is therefore able to conduct collateral operations in support of these forces. In short, this capability should be viewed as complementary vice duplicative.

Question: What is the difference between a Marine Corps Special Operations Capable force (a MEU/SOC) and an Army A-Team? Which is more integral to evolving defense strategy?

Answer: The difference between an 1800 man MEU SOC and a ten man Special Forces A-team is significant. The Special Forces A-team's mission is to train indigenous forces, a task for which they are eminently qualified to perform. While the Marine Corps maintains a mobile training team capability, we are by no means looking to assume the A-team mission nor do I presume are the Special Forces A-teams suggesting that they should conduct amphibious raids, airfield seizures or noncombatant evacuation operations. Both the Marine Corps Special Operations Capable Force and the Army A-teams provide warfighting capabilities that are required to fulfill the operations and missions dictated by the evolving defense strategy.

Question: In Low Intensity Conflict scenarios, how will they differ? How will they support each other?

Answer: The flexibility, mobility and sustainability of seabased forces has been demonstrated repeatedly by our Navy-Marine Corps team. These forces have been the force of choice in the majority of peacetime contingency operations.

The difference between USSOCOM forces and Marines in a LIC scenario will vary depending upon the scenario. Marines normally are part of a task organized Marine Air-Ground Task Force (MAGTF) with inherent mobility and fire support. Marine Air-Ground Task Forces train, deploy and are employed as a combined arms team.

USSOCOM may be designated either as a supporting or supported commander but, in most instances, will provide support to the unified warfighting commander in chief. Marine Air-Ground Task Forces can provide a wide variety of support to USSOCOM forces including: SIGINT/EW, reconnaissance and surveillance, air or surface transport, fire support, logistics support, blocking force, diversionary force, security force, etc. If the Marine Air-Ground Task Force is designated as the Joint Task Force Commander, USSOCOM forces could be used to support the Commander with special operations capabilities.

AMPHIBIOUS ASSAULT FORCES

Question: General Etnyre, in 1975, then Secretary of Defense James R. Schlesinger questioned the need for an amphibious assault force. He believed that such a force was an anachronism since it was unlikely that the U.S. would ever again conduct a sea assault of the sort seen in the Pacific during World War II. In light of the recent Panama and Grenada operations where the use of Marines was severely limited, why should this committee not agree with Secretary Schlesinger's assessment?

'Answer: First I would like to address Secretary Schlesinger's remarks. World geography has not changed since World War II. The vast majority of the world's population still lives and works on or near the sea, or along accessible waterways. Most of the world's commerce is still carried on the oceans highways. What has changed is that this is more than ever a world economy and we are more than ever a maritime nation with worldwide interests. Even as the threat of Communism and the Soviet military machine seem to be diminishing, regional threats to U.S. interests are growing in military, economic and political power. In this changing and uncertain world, the U.S. still needs to be able to project military power anywhere in the world to protect our national interests. But, at the same time, we find our military presence less welcome, and so it becomes more difficult to project military power from forward bases. The answer is the Navy/Marine Corps team and its ability to be where the trouble is brewing without the need of forward basing. The Navy and Marine Corps have not been marking time since World War II where amphibious warfare is concerned. The Navy has launched new amphibious ship types which are designed to accommodate the combined air/sea assault which was not possible during World War II. Helicopters, air cushion vehicles, and new amphibious assault vehicles allow Marines to attack quickly from over the horizon, surprising and out maneuvering the defenders. Another key element of the over-the-horizon concept is to avoid the vulnerability of land based logistics support by sustaining the combat forces from a sea base. The integration of air, ground, and logistics elements under one commander forms a potent, sustainable force that is able to linger offshore to deliver the implied threat or execute forcible entry when the situation demands. We can reinforce our initial assault forces using a follow-on amphibious force or a fly-in brigade using equipment and supplies staged on ships which are stationed in key areas and can sail to where they are needed. So in one sense, we will never "conduct a sea assault of the sort seen in the Pacific during World War II". If the situation dictates a traditional amphibious assault, we are ready. However, the Soviet defense doctrine, as used by surrogate militaries in many of the emerging third world nations, does not pursue a fixed, static defense, but rather a mobile defense to avoid the same threats from our weapons. Advanced technology and techniques have significantly expanded the Navy/Marine Corps team's potential landing sites, greatly compounding the problems facing a future foe. Additionally, Marine units are fully capable of deploying by strategic aircraft anywhere in the world. Much has changed since 1945. Panama was not a situation which required the unique capabilities the Marine Corps offers to our national security. Significant forces were already in place, and because of their presence, there was no need for forcible entry from outside of Panama. The U.S. bases in Panama provided an adequate infrastructure to support forces already in place or flown in without extensive logistics support. The strengths of the Navy/Marine Corps team are the ability to rapidly form combined arms task forces tailored to perform the mission at hand, to deploy them quickly, to stand off of a foreign shore to show U.S. resolve, to forcibly enter a country by sea and air, and to sustain forces ashore from sea bases as well as shore based logistics. In fact, the Marine contingent in Panama did carry out their assigned mission efficiently and without fanfare. In Grenada, on the other hand, the Navy/Marine Corps team did demonstrate the flexibility, quick response, forcible entry and sustainment capabilities that are part of our unique contribution to the national defense. A Marine Expeditionary Unit on its way to relieve Marine forces in Beirut was diverted to take part in the Grenada operation. Using amphibious assaults to out-maneuver hostile forces, the Marine Air-Ground Task Force (MAGTF) efficiently accomplished their assigned mission, which involved securing the majority of the island. MAGTF assets were even used to support the U.S. Army units, since their Rangers and Airborne forces were lightly armed and did not possess armor or have adequate close air support available.

AMPHIBIOUS ASSAULT FORCES

Question: What minimum force level would the Marine Corps require if limited only to low intensity conflict scenarios?

Answer: The Marine Corps has the only seabased, sustainable forcible entry capability in the United States armed forces, which can be exercised across the spectrum of conflict. Many third world countries have high-tech forces and even guerrilla armies can have a potent antiarmor and antiaircraft capability, so that even a "low intensity conflict" can be very intense. Further, to imply that limiting the Marine Corps to a particular type of scenario will allow a reduction in forces is misguided at best. It is not an effective defense policy to limit the mission of a force which has a unique capability that is useable across the full spectrum of conflict.

Question: How would this force be organized?

Answer: Marine Air-Ground Task Force (MAGTFs) are formed to accomplished the mission assigned, from the resources of the Marine divisions, wings and service support groups. Therefore, The Marine Corps' basic organization would not change. We would continue to field MAGTFs ranging in size from our largest, the Marine Expeditionary Force (MEF) to Marine Expeditionary Brigades (MEB), Marine Expeditionary Units (MEU), and to Special Purpose Forces (SPF), the smallest MAGTF, which is formed when the mission requires less than a MEU.

Question: If limited to only the LIC mission, could the Corps accomplish its objectives organized into two, rather than three Marine Expeditionary Forces, and one brigade of 16,000 Marines?

Answer: The interests of this nation are not well served by limiting the only force that has the capability of sustainable forcible entry across the spectrum of conflict to a low intensity conflict mission. Current operational plans, which reflect the needs of the warfighting CINCs, require that the Marine Corps maintain the resources to form three Marine Expeditionary Forces.

RETIRING OLDER WEAPONS SYSTEMS

Question: Senator Nunn has proposed that the Army and Marine Corps retire older weapons systems now--such as M-60 tanks, Vulcan air defense guns, eight inch howitzers, and OH-58A aircraft. In his April 20 speech to the Senate, he stated that it is not cost effective to keep these systems in the force, and "as budgets and forces shrink the least valuable military equipment should be scrapped." General Etnyre, what is your reaction to Senator Nunn's statements?

Marine Corps: We plan to excess all of our obsolete M60A1 Rise Passive tanks and replace them with a reduced number of M1A1 main battle tanks. We are also in the process of phasing out our M109 and M110A2 howitzers and replacing them with M198 howitzers.

Question: I assume that the 1990 and 1991 budgets still request procurement and operation and maintenance to supply and repair these systems. Would you please provide the Subcommittee with an estimate of the budgeted amounts for the Marine Corps systems referenced in Senator Nunn's statement.

Answer: The FY 1990 and FY 1991 budgets contain no procurement funds for the M60A1 Rise Passive (R/P) Tank, the M110A2 and M109 howitzers. The budgeted amounts for operation and maintenance of the M60A1 tank, M109 and the M110A2 howitzers are part of the aggregate funds provided to the Fleet Marine Forces for the operation and maintenance of all fielded equipment. When M60A1 tanks and M110A2 howitzers are withdrawn from current inventory, the corresponding O&MMC funds will be applied to the equipment that replaces them (i.e. M1A1 Tank and M198 howitzer).

Question: Which of these systems will the FY 1992 budget propose phasing out of the force?

Answer. The M60A1 Rise Passive tank will be phased out beginning in FY 1991 with complete phase out occurring by the end of FY 1992. We intend to complete the phase out of the M110A2 howitzer by the end of this fiscal year.

ARMORED GUN SYSTEM (AGS) - LIGHT TANK

Question: General Dailey, the Marine Corps has expressed interest in a "light tank." Are your requirements for a light tank the same as the Army's requirements for an Armored Gun System?

Answer: Our requirement is still evolving. We have established a dialogue with the Army Armored Gun System (AGS) project officers at the Army Tank-Automotive Command (TACOM), the United States Army Training and Doctrine Command (TRADOC), and the Armor Center to discuss commonality of requirements and the applicability of each service's programs. The Army's requirement for Low Velocity Air Drop (LVAD) with the resultant tradeoff in armor protection appears to be less than what the Marine Corps envisions for a light tank.

ROTARY WING AIRCRAFT FLEET REQUIREMENTS

Question: General Dailey, are any Marine helicopter programs included in Secretary Cheney's review of rotary wing aircraft?

Answer: There are no Marine helicopter programs included in Secretary Cheney's review of rotary wing aircraft.

TECHNOLOGY AND FUTURE WARS

QUESTION: General Dailey, a recent GAO study concluded that the so-called low-intensity threat is not necessarily a low-technology threat. The weapons that the U.S. armed forces may encounter in future low-intensity conflicts span the range of military technology that exists throughout the modern world; that is, it is not just poorly equipped opponents we confront. Indeed, the weapons we face may be our own. From the standpoint of both technology and tactics, how prepared are U.S. forces to meet and prevail over U.S. technology or its equivalent in quality?

ANSWER: The Marine Corps' maneuver-oriented doctrine reflects an understanding of the operational requirements of modern warfare to include confronting the high-technology threat, Soviet, U.S. or otherwise, that very well may be associated with any conflict. Our warfighting philosophy, which encompasses the continual study of the security environment, is the basis for innovation in doctrine, tactics, techniques, and equipment development. As such, we continue to refine our structure to be more responsive to the new security environment.

For example, we have been working in partnership with the Navy to counter the threat that modern weapon systems impose upon our ability to rapidly project power and forces in response to crisis action. The ability to project power, day or night, from over-the-horizon, bypassing first line enemy defenses to insert forces deep into inland objectives, is an operational maneuver requirement necessary to meet the warfighting needs of our nation now and well into the 21st century. Therefore, our priorities in research, development and acquisition are, and have been, based on the procurement of systems necessary for the rapid projection of sustainable, combat ready forces to a crisis anywhere in the world, under adverse weather conditions, from distances well beyond the horizon. These capabilities, already inherent to a certain degree in Marine Air Ground Task Forces (MAGTF), coupled with the ability of forward deployed MAGTFs to execute the requirements of a rapid planning process, serve to enhance MAGTF survivability on ever increasing lethal battlefields.

As long as Marines are well trained in fundamental individual and unit skills, and leaders have been conditioned to adapt quickly, improvise, and act based on their estimates of the situation, the Marine Corps will measure up to our nation's requirement for military flexibility and readiness for immediate crisis response in an uncertain world.

QUESTION: Where are U.S. forces and technologies they employ in combat, the most vulnerable today?

ANSWER: No Marine Corps requirement is more pressing than the need to identify a solution for the replacement of our medium lift assault aircraft. Today's precision guided munitions and hand-held surface-to-air missiles place our thirty year old helicopters and the Marines they carry at risk.

Our medium assault helicopters are the very heart of the Marine Air Ground Task Forces. In maneuver warfare, they provide the critical vertical dimension to the battlefield and are one of the commander's true maneuver elements. Although our aging CH-46 helicopters have served us well for three decades, threat technology available to most third world developing nations make them extremely vulnerable. We urgently need to identify and procure a medium lift assault air-frame which will survive the threats, provide the needed mobility, and be able to remain in service well into the next century. Critical to our requirement is that these assault air-frames must include the capability to execute explicit strategies of surprise and deception, execute true over-the-horizon operations, extract and redeploy forces at critical times, enhance force survivability, and navigate and communicate at night and in adverse weather conditions.

QUESTIONS SUBMITTED TO THE MARINE CORPS BY SENATOR D'AMATO

ADVANCED ASSAULT AMPHIBIOUS VEHICLE (AAAV)

The short legs of the Assault Amphibious Vehicle (AAV) will hinder the Marines' over-the-horizon strategy until the Advanced Assault Amphibious Vehicle (AAAV) comes on line.

Question: How far has the AAAV program progressed?

Answer: The Advanced Amphibious Assault (AAA vice AAAV) program continues to keep pace with its original schedule outlined in 1988. A Defense Acquisition Board (DAB) Milestone-I program review is scheduled for April 1991 to select the preferred concept from among twelve candidate alternatives. The preferred alternative will enter a forty-four month demonstration and validation phase in FY 1991 immediately following the DAB Review. The High Water Speed Technology Demonstrator (HWSTD), a 3/4 scale AAA technology base system, achieved water speeds in excess of thirty-three miles per hour during tests at Patuxent River, Maryland in March of 1990. The Propulsion System Demonstrator (PSD), a full scale Advanced Technology Transition Demonstrator (ATTD), the other major product of the AAA technology base, is in its final stages of assembly and is scheduled to begin testing in October of 1990.

Question: What major development hurdles do you foresee?

Answer: The AAA's technology base development program has served the Marine Corps extremely well in a variety of ways, to include the identification of potential areas of technical risk for high water speed amphibians. The most important technical challenge is the implementation of an aggressive subsystem weight control/reduction program. This is important to ensure existing and developmental power plants remain capable of propelling the vehicle in the water at speeds of at least 20 knots. The success of ongoing power plant development programs is also an important step on the road to fielding an AAA system.

LIGHT ARMORED VEHICLE-105 AND THE ARMORED GUN SYSTEM

Question: Why aren't the Marines and the Army working together to design a Light Armored Vehicle-105 (LAV-105) that meets the requirements of the Marines, Airborne/Airmobile Units, and the Army's Light Divisions?

Answer: The Marine Corps' LAV-105 program has been on a defined course intended to fulfill a direct-fire requirement within our four Light Armored Infantry Battalions. In order to minimize the logistical impact of this new system, the use of the standard LAV chassis was directed. Additionally, in an effort to assure a common employment capability, a weight limit was imposed to allow helicopter transportability. We are currently on contract with Cadillac Gage TEXTRON for the development of the Marine Corps' LAV-105.

Throughout the process leading to the award of the development contract, the Marine Corps has kept the Army advised of the program's progress. In support of perceived Army interest, we modified the LAV-105 Request for Proposal to indicate the "desire" for the LAV-105 to be capable of Low Velocity Air Drop (LVAD), an Army requirement for usage in the Light Divisions.

There are other differences as well. First, the Army requires greater ballistic protection than that afforded by the LAV family of vehicles. Second, while the Cadillac Gage LAV-105 height can be reduced to meet Low Velocity Air Drop/Low Altitude Parachute Extraction System requirements, the Army requires their system to be combat ready in less than the 60 minutes Cadillac Gage indicates it would take for their design. As noted above, the Army and Marine Corps have been working together, but due to some fundamental differences in our employment concepts, a common solution does not appear likely at this time.

QUESTIONS SUBMITTED TO THE MARINE CORPS BY SENATOR SPECTER

OVERLAP IN MISSION

Question: Senator Specter mentioned during the testimony on "Land Forces" that a comparison of missions between the Army and Marine Corps indicated "some overlap in a number of areas, e.g. counter-narcotics operations." Is the Marine Corps aware of any actions, or participating in any actions, the Department of Defense may have undertaken to review the missions of the various services to identify areas of overlap or duplication in mission?

Answer: Pursuant to the provisions of the FY 1990 Department of Defense Authorization Act, the Marine Corps, along with the other Armed Services, is participating in a Total Force Policy Study Group convened by the Secretary of Defense. The charter of the study group is to review and make recommendations to the Secretary of Defense on the operation, effectiveness, and soundness of the Total Force Policy; the assignment of missions within and between the active and reserve components of the Armed Forces; and the force structure of the active and reserve components. The law requires that the Secretary of Defense report interim findings to Congress on 15 September 1990 and final findings and recommendations on 31 December 1990.

SUBCOMMITTEE RECESS

Senator INOUYE. The subcommittee will stand in recess until next Thursday, May 15, 1990, at 10 a.m. At that time we will discuss seapower.

[Whereupon, at 11:40 a.m., Thursday, May 10, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

DEPARTMENT OF DEFENSE APPROPRIATIONS FOR FISCAL YEAR 1991

TUESDAY, MAY 15, 1990

U.S. Senate,
Subcommittee of the Committee on Appropriations,
Washington, DC.

The subcommittee met at 10:08 a.m., in room SD–192, Dirksen Senate Office Building, Hon. Daniel K. Inouye (chairman) presiding.

Present: Senators Inouye, Bumpers, Harkin, Stevens, Rudman, Cochran, and Specter.

DEPARTMENT OF DEFENSE

Seapower

STATEMENT OF GERALD A. CANN, ASSISTANT SECRETARY OF THE NAVY (RESEARCH, DEVELOPMENT AND ACQUISITION)

ACCOMPANIED BY:

- VICE ADM. DANIEL L. COOPER, USN, ASSISTANT CHIEF OF NAVAL OPERATIONS (UNDERSEA WARFARE)
- VICE ADM. JOHN W. NYQUIST, USN, ASSISTANT CHIEF OF NAVAL OPERATIONS (SURFACE WARFARE)
- VICE ADM. PETER M. HEKMAN, JR., USN, COMMANDER, NAVAL SEA SYSTEMS COMMAND

OPENING REMARKS OF SENATOR INOUYE

Senator Inouye. The subject of our hearing this morning is seapower. The history of this country is replete with examples which demonstrate the critical role played by seapower from our Nation's conception to our present day. It was the sea that provided this country protection from foreign enemies during its infancy, and seapower has allowed the United States to protect its interests throughout the world during this century. Seapower is essential to preserving America's strength.

I believe the importance of seapower is recognized by all of the leaders of our country, whether or not they are part of the defense sector. It is, therefore, with special pleasure that I welcome our witnesses this morning to discuss seapower as it pertains to the U.S. Navy.

Needless to say, we are at a crossroads in our history at this moment. From around the globe we see changes which were unthinkable only a year ago. At home we face a severe fiscal crisis which, if left unsolved, could threaten the economic well-being of this Nation. So it is up to us to arise to the challenge to meet our international responsibilities while preserving our domestic wellbeing.

NAVY BUDGET

The Navy's budget before the Congress which is the heart of seapower is $99.5 billion. Our review of seapower will focus on the funding of shipbuilding and ship maintenance and include our Nation's industrial capacity. Each of these is critical to our strength and ability to respond in time of crisis.

INTRODUCTION OF ASSOCIATES

To aid our review, we are pleased to welcome the Assistant Secretary of the Navy for Research, Development and Acquisition, the Honorable Gerald Ann. Secretary Cann is accompanied by Vice Adm. John W. Nyquist, Assistant Chief of Naval Operations for Surface Warfare, Vice Adm. Daniel L. Cooper, Assistant Chief of Naval Operations for Undersea Warfare, and Vice Adm. Peter M. Hekman, Commander of the Naval Sea Systems Command.

Gentlemen, your prepared statements have been received and made part of the record.

Mr. Secretary, you may proceed as you wish, sir.

Mr. CANN. Thank you, Mr. Chairman, distinguished members of the subcommittee. I am very pleased to be here today to discuss with you Navy seapower requirements. I am also pleased to have several gentlemen with me that you already recognized.

I would like to make a couple of comments that are contained in my statement and will let the rest go for the record.

STATEMENT HIGHLIGHTED

I would first like to point out that in our fiscal year 1991 ship construction budget request we have $11.195 billion. This represents resources for 15 new ships and 22 new craft. We also have a maintenance modernization budget request of $3.55 billion. This is for 13 overhauls, 90 SRA's and 45 PMA's. We want to be able to maintain the optimum seapower projection capability in this constrained budget environment. I am sure we are going to discuss these in some detail.

There is one other item that I feel is important and that is to make sure the subcommittee understands that we feel very strongly at this point about the issue of the two reprogrammings we have over here. There are two shipbuilding-related reprogramming actions before the Congress. We have requested $178.8 million for the lead SSN-21 in fiscal year 1991 due to the basic construction contract award which reflects higher than anticipated labor and material charges.

Also, $151.6 million has been requested for the fiscal year 1984, 1985, and 1988 SSN-688 programs primarily to cover the Government's contract liability for target-to-ceiling coverage in the shipbuilding contracts.

It is important that both of these reprogramming requests be addressed expeditiously, since a portion of these funds are needed in order to satisfy near term requirements.

That concludes the summation of my prepared statement.

[The statement follows:]

STATEMENT OF ASSISTANT SECRETARY OF THE NAVY GERALD A. CANN

Good morning Mr. Chairman, and distinguished members of the Subcommittee. I appreciate this opportunity to appear before you and discuss Navy Seapower. To assist me in answering your requirements related questions, I have with me VADM John W. Nyquist, Assistant Chief of Naval Operations (Surface Warfare), VADM Daniel L. Cooper, Assistant Chief of Naval Operations (Undersea Warfare), and VADM Peter M. Hekman, Jr., Commander Naval Sea Systems Command.

FISCAL YEAR 1991 BUDGET SUMMARY

The Navy's budget request for fiscal year 1991 Ship Construction is $11,195.2 Million. This represents resources for 15 new ships and 22 craft. The budget request for the fiscal year 1991 Ship Maintenance and Modernization is $3,531.5M. This is for 13 overhauls, 90 SRS's and 45 PMA's. In order to ensure that we retain optimum seapower projection capability in the current constrained budget environment, it is extremely important to not only acquire new ships but also to keep existing fleet assets in the best possible condition, with the most modern weapon systems, a list of these ships and craft and detailed descriptions of our programs are contained in our budget justification material which you have already received.

NAVAL SHIPBUILDING

Currently, 103 Navy ships, consisting of 95 new construction, 7 conversions, and 1 SLEP (at a public yard), are under contract or construction. These ship construction programs and quantities are listed in the attached Table. During fiscal year 1989, 20 new ships, 2 converted ships, and 1 activated ship were delivered. In fiscal year 1990, 15 new ships and 1 conversion are scheduled for delivery. Of these, 8 new construction ships have been delivered.

TRIDENT SUBMARINE

The 17th OHIO Class TRIDENT submarine, SSBN 742, was awarded to the Electric Boat Division of General Dynamics in October 1989. Currently, eight C-4 missile capable and two D-5 missile capable OHIO Class submarines have been delivered. The next ship, USS WEST VIRGINIA (SSBN 736), is scheduled to be delivered in September 1990.

SSN 688 CLASS ATTACK SUBMARINE

The fiscal year 1990 budget appropriated one SSN 688, which represents the last of the SSN 688 program. Through fiscal year 1990, 62 SSN 688 Class submarines have been authorized, of which 43 have been delivered. The remaining 19 are planned for delivery by 1995. Under competitive procurement strategies, General Dynamics Electric Boat Division (EBDIV) has been awarded 33 submarines while Newport News Shipbuilding (NNS) has been awarded 29.

Since the first SSN 688 submarine construction contract was awarded in 1971, continual improvements in war-fighting capabilities have been incorporated resulting in the recently awarded submarines having dramatically greater war-fighting capabilities, including propulsion improvements, combat system upgrades and weapon delivery capabilities, when compared with the first submarines of the class. However, the capability to make the magnitude of improvement required to match the projected threat in the 21st century is not available, this necessitates the building of the SEAWOLF class.

SSN 21 SEAWOLF CLASS ATTACK SUBMARINE

The SSN 21 SEAWOLF Class submarine is designed to counter the rapidly increasing capabilities of the Soviet submarine force projected for the late 1990s and beyond. SEAWOLF will be the world's foremost submarine: quiet, fast, and well-armed with advanced sensors, capable of deploying to forward ocean areas to search out and destroy enemy submarines and surface ships and to attack land targets.

The SEAWOLF program is over 7 years into a 13-year process toward delivery of the first ship. NNS is the lead yard for detail design. EBDIV is the propulsion plant design yard as well as being a major subcontractor to Newport News Shipbuilding for detail design. A contract for construction of the lead ship was competitively awarded to EBDIV in January 1989. Construction has begun. As requested in the conference report for the fiscal year 1990 Appropriation Bill, we have requested a reprogramming to correct identified cost growth for the SEAWOLF. The cost growth is attributed to unanticipated labor rate escalation and material cost increases. It is absolutely vital that the requested funding be provided as quickly as possible to preclude costly lead ship construction delays and to fund lead ship obligations which were delayed.

NUCLEAR-POWERED AIRCRAFT CARRIER CONSTRUCTION

USS ABRAHAM LINCOLN (CVN 72) was delivered in October 1989 two months in advance of contract delivery. Construction of GEORGE WASHINGTON (CVN 73) continues on schedule toward a July 1992 delivery.

The fiscal year 1988 Appropriation Act included funding for two NIMITZ Class aircraft carriers: CVNs 74 and 75. A construction contract with Newport News Shipbuilding for CVNs 74 and 75 was executed in June 1988, with projected delivery dates of December 1995 and June 1998, respectively.

CG 47 CLASS CRUISERS

The first ship of the class, USS TICONDEROGA, was appropriated in fiscal year 1978 and was commissioned in January 1983. The last 5 ships of the 27-ship class (CGs 69–73) were appropriated in fiscal year 1988. The final ship of the class is scheduled to complete in 1994.

Fifteen AEGIS cruisers have been commissioned to date. They are the worlds most capable AAW and ASW surface combatants and have operated successfully in all environments and in every ocean area in a variety of employments.

DDG 51 CLASS DESTROYERS

ARLEIGH BURKE (DDG 51) is the first ship of the second class of AEGIS warships authorized by Congress and currently under construction. DDG 51 is a multimission AEGIS-equipped Guided Missile Destroyer whose mission requirements are to project power simultaneously in the four dimensions of Naval Warfare: Anti-Air, Strike, Anti-Submarine, and Anti-Surface. AEGIS-equipped DDG 51 Class ships will complement the CG 47 Class cruisers as part of the Carrier Battle Groups. The DDG 51 Class will also operate with Surface Action Groups, will deploy in support of Replenishment and Amphibious Groups, and be capable of independent operations.

The Navy's greatest ship inventory shortfall is in the area of battle force combatants; a shortfall exacerbated by the accelerated retirement of the DDG 2 and DDG 37 Classes, as well as the approaching retirement of aging conventional cruisers. The DDG 51 Class fulfills the need for battle force combatants while providing quantum improvements in war fighting and survivability over the ships this class replaces. Thirteen ships are under contract with Bath Iron Works and Ingalls Shipbuilding. A minimum of five ships per year is considered necessary to keep pace with retirements of older AAW destroyers and to maintain cost effective ship construction.

Last year, Congress approved a multi-year procurement strategy for 10 DDG 51 destroyers 5 each in fiscal year 1990 and fiscal year 1991. Our submission this year requests funding for five fiscal year 1991 ships. The acquisition-cost estimate for these five ships was reduced by a total of $125 million assuming a multi-year procurement would be executed. Based upon lack of demonstrated savings after receipt of the fiscal year 1990 contract proposals, these 10 ships will be procured in two separate annual procurements. We are evaluating the impact of this decision.

LSD 41 CLASS LANDING SHIP DOCK

LSD 41 Class ships are major components in our modernized marine amphibious capability. Of the eight LSD 41 Class ships awarded, four are in service and the remainder are in various stages of construction at Avondale Industries. Scheduled deliveries for the remaining ships continue through early 1991.

A contract for detail design and construction of LSD 49, the first of the Cargo Variant LSD(CV) ships, was competitively awarded to Avondale Industries in June 1988, with delivery scheduled for November 1993. This ship incorporates the same hull and propulsion plant as the first eight ships but includes interior arrangements which increase cargo capacity. The contract includes pre-priced options for four additional ships. The Navy exercised the option for LSD 50 in December 1989.

LHD 1 CLASS AMPHIBIOUS ASSAULT SHIP

LHD 1 Class ships are the dominant component in our modernized Marine Corps amphibious assault capability. Construction of the LHD 1 Class continues at Ingalls Shipbuilding. USS WASP (LHD 1) was delivered in May 1989, with deliveries of LHDs 2, 3, and 4 scheduled for April 1992, January 1993, and March 1994, respectively, all from Ingalls. The Navy plans to competitively procure LHD 5 and follow-on ships. Advance procurement funding for this ship was provided in fiscal year 1990. Contract award for construction of LHD 5 is planned in fiscal year 1991.

LANDING CRAFT, AIR CUSHION (LCAC)

As of March 1990, 20 LCACs have been delivered and they are operating very successfully. fiscal year 1990 contracts were awarded to Textron Marine Systems (TMS) (9 craft), and Avondale Gulf Marine (AGM) (3 craft). TMS acts as the Central Procurement Activity for major LCAC components. A promising demonstration of the capability of the LCAC to deploy, tow, and recover mine countermeasures equipment was successfully completed in June 1988. The fiscal year 1988 SCN Appropriation provided $2.8 million for design of arctic-configured LCACs. We are currently reviewing improvements that enhance arctic capability.

MCM 1 CLASS MINE COUNTERMEASURES SHIP

This is a 14-ship program for ocean-going minesweepers. USS AVENGER (MCM 1) has completed post-delivery testing and is an active fleet unit. Eight ships remain under contract with Peterson Builders, Inc., and two remain under contract with Marinette Marine Corporation. Three ships were delivered in CY 1989, and three more should be delivered in CY 1990. The new and very capable AN/SQQ-32 minehunting sonar has been installed in USS AVENGER.

MHC 51 CLASS COASTAL MINEHUNTER

This is a planned 17-ship program for glass reinforced plastic (GRP) coastal minehunters. The design is based on Italian GRP technology which was transferred to the lead shipbuilder (Intermarine USA, Savannah, Georgia) and is being transferred to the second source shipbuilder (Avondale Industries of New Orleans, Louisiana). Lead ship delivery is scheduled for January 1992. Three ships have been awarded; two to Intermarine and one to Avondale. These contractors will compete for the remaining 14 ships of the class.

AOE 6 CLASS FAST COMBAT SUPPORT SHIP

The lead ship contract awarded to National Steel and Shipbuilding Company (NASSCO), San Diego, California, in January 1987 included options for three additional ships, one each in fiscal year 1989, fiscal year 1990 and fiscal year 1991. With exercise of the option for the fiscal year 1990 ship in December 1989, three ships are now under contract. We expect delivery for the lead ship in July 1991.

T-AO 187 CLASS FLEET OILER

All seven ships of the third and final flight of Fleet Oilers have now been awarded to Avondale Industries. Two of the four second flight ships awarded to Pennsylvania Shipbuilding (Penn Ship) but not then begun, were assigned by Penn Ship to Avondale in June 1988. In August 1989, the Navy terminated the contract with Penn Ship and subsequently contracted with Tampa Shipyards, Inc. (Tampa Ship) for completion of the work on the remaining two ships.

T-AGOS 19 CLASS OCEAN SURVEILLANCE SHIP

In October 1986, the Navy awarded McDermott Shipbuilding, Morgan City, Louisiana, a contract for the detail design and construction of a T-AGOS SWATH (Small Waterplane Area Twin Hull). An option for three fiscal year 1989 follow-on ships was exercised in October 1988. All four ships are scheduled for delivery between December 1990 and August 1992. This will complete the T-AGOS 19 Class procurement. The fiscal year 1990 Appropriations Act provided transfer authority for $27.0 million to include SURTASS Block-Upgrade on the three fiscal year 1989 ships.

T-AGOS 23 CLASS OCEAN SURVEILLANCE SHIP

T-AGOS 23 is the first of a new generation of SWATH T-AGOS ships. Like the SWATH T-AGOS 19 Class, T-AGOS 23 Class extends the operational envelope of SURTASS into the higher latitude sea areas. The T-AGOS 23 Class design will also include greatly expanded acoustic collection capabilities with the addition of a second acoustic system. This program has completed the contract design phase and is in the source selection process.

AO 177 (JUMBO) CLASS FLEET OILER

This program involves addition of a 108-foot mid-body section to the existing AO-177 Class oilers to substantially increase cargo capacity. All five ships are to be converted by Avondale Industries in New Orleans. In accordance with the fiscal year 1989 Congressional guidance, the Navy modified a contract to give the ships the capacity to carry ammunition in addition to more oil. All ships will be converted by August 1992.

AIRCRAFT CARRIER SERVICE LIFE EXTENSION PROGRAM (SLEP)

USS KITTY HAWK (CV 63), the fourth carrier to enter SCN funded SLEP, is currently in her 37-month industrial availability at Philadelphia Naval Shipyard, and is scheduled to complete in February 1991. USS CONSTELLATION (CV 64) is scheduled to commence SLEP at Philadelphia in July 1990.

CVN 65 REFUELING AND OVERHAUL

USS ENTERPRISE (CVN 65) is currently scheduled to start her refueling and modernization overhaul in January 1991, at Newport News Shipbuilding. A total of $1,422 million in SCN funding was provided in the fiscal year 1990 appropriation. The USS ENTERPRISE was last refueled in 1970.

SHIPBUILDING INDUSTRY

All Americans share a concern about the overall competitive capability of our nation's industrial infrastructure. Navy shipbuilding programs continue to employ approximately 97 percent of the direct labor involved in the active shipbuilding base and approximately 56 percent of ship repair direct labor. There is excess capacity in the U.S. shipbuilding industry due to the lack of commercial orders. Navy execution of Congressional direction to establish public/private shipyard competition also served to maximize opportunity for ship repair companies throughout the nation. Navy shipbuilding and repair funding has been a catalyst for innovation in ship production process applications and materials development including both the shipyards and the supporting industries. The existing base can only be maintained through a combination of stable competitive Navy programs and commercial work. The fiscal year 1991 Navy shipbuilding budget supports such a stable and competitive program.

However, shipyard availability is not the primary mobilization constraint. It is rather in the vendor base supplying the shipyards with materials and component systems that we face the most critical production mobilization constraints. This base has suffered due to the loss of commercial work from the private sector.

Beginning in the early 1980's, the Navy has made significant changes to its depot maintenance philosophy. We have shifted from major overhauls occurring every three years to one in which a major overhaul now occurs about every five years, with short maintenance intensive selected restricted availabilities (SRA's) occurring about every 18 months between overhauls.

As the Navy's maintenance strategies have evolved, the number of overhauls have decreased from a high of 77 in fiscal year 1977 to the 13 planned in fiscal year 1991. The net effect of our current maintenance strategy is a reduction in the number of overhauls, a significant increase in the number of shorter more frequent availabilities, and a net increase of operational availability as observed by Fleet Commanders. This philosophy has tended to reduce the work available for our naval shipyards and provided increased opportunities for the private sector.

The Navy is deeply concerned about the future utilization of naval shipyards. We have previously reported to Congress that workload for naval shipyards would decline in the early 1990s. Some of this decline is already apparent and will be more evident in 1991. However, if the current funding trends continue, employment will not return to current levels in the latter part of the decade as was previously anticipated. Force level changes could require substantial reduction in the public shipyard requirement. We will continue to monitor the situation and manage our public shipyards efficiently, making adjustments as necessary to support force levels and mobilization requirements.

PUBLIC/PRIVATE SHIP REPAIR

The private sector currently performs 83 percent of Navy non-nuclear availabilities, the majority of which (73 percent of total availabilities) are assigned to private/private competition. The remainder are competed public/private. With the exception of a few availabilities per year, the only non-nuclear surface ship availabilities which are not already a part of the Public/Private Competition (PPC) program are Amphibious Assault Ships (LHAs and LHDs), Battleships, and Aircraft Carriers. The exceptions are those availabilities which are performed at a naval shipyard because of lack of private dry-dock capacity in the home-port area, or to maintain a minimum workload. There is little or no additional surface ship work which can be competed. The fiscal year 1991 repair program illustrates the lack of interest and competition in submarine repair. Of 13 availabilities, 5 availabilities were assigned to public yards as of 20 April 1990, with 6 more pending assignment to public yards because of a lack of private sector interest in submitting proposals to repair them. Only two availabilities are expected to be competed; however, recent market surveys indicate renewed interest in the 1991 scheduled work.

As the Navy work available to both the public and private sector decreases in the 1990s, we will need to monitor the competition process carefully to be sure it enhances both efficiency and maintenance of the industrial base. We have learned that competition between the public and private sectors is very difficult to structure such that it is viewed as being fair by all parties yet leads to efficient work execution.

COMPETITION

I would like to share with you recent data from the Annual Navy Competition Advocate General Report to Congress on competition results for fiscal year 1989. This report showed that the percentage of Navy procurement dollars competed was 60.6 percent. This impressive statistic marks a consistent seven-year improvement trend and a doubling of the dollars competed since the diminutive 26.7 percent achieved in fiscal year 1982. Competition is now embedded in the Navy acquisition process and has brought the U. S. taxpayer and Navy personnel higher quality products at lower costs. It is in the interest of maintaining these competitive savings, in the face of smaller overall budgets, that we seek the committee's support for continued program stability in our subsequent budget requests. Clearly, as we proceed, we will find this more difficult in the future.

CONCURRENT TEST AND PRODUCTION

Congress has recognized the uniqueness of shipbuilding by amending U.S.C. Title 10, adding Section 2400 entitled: "Low rate initial production of new systems." The amendment defines what constitutes low rate initial production in order to minimize the risk of concurrent procurement and testing of major Department of Defense acquisition programs. This amendment specifically recognizes shipbuilding and satellite programs as unique among all other DOD acquisitions. It defines shipbuilding low rate initial production as production of items at the minimum quantity and rate that preserves the mobilization production base. Of necessity, this includes the vendor base. Hundreds of millions of additional dollars would be required to complete new ship programs without this statutory recognition of the uniqueness of shipbuilding.

STATUTE OF LIMITATIONS ON SHIPBUILDING CLAIMS

The 18-month statute of limitations on shipbuilding claims is codified by 10 U.S.C. 2405. The law prohibits the Secretary of any military department from making a price adjustment to a shipbuilding contract for an event occurring more than 18 months prior to submission of a claim, Request for Equitable Adjustment (REA), or demand for payment. The law also provides that a claim, REA, or demand for payment is considered to be submitted only if it is accompanied by supporting data and the required certification.

Draft Navy Acquisition Procedures Supplement (NAPS) regulations were published in the Federal Register in November 1989. Provision was made for a 60-day period for public comment. This period was extended at industry's request. Industry comments have now been received and are being reviewed. We plan to republish revised regulations which will show the disposition of all industry comments and provide an additional opportunity for industry to comment prior to their implementation.

PENDING REPROGRAMMING ACTIONS

There are two shipbuilding related reprogramming actions before the Congress. We have requested $178.8M for the lead SSN-21 (fiscal year 1989) due to a basic construction contract award which reflects higher than anticipated labor and material charges. Also, $151.6M has been requested for the fiscal year 1984, 1985 and 1988 SSN-688 programs, primarily to cover the Government's liability for target to ceiling coverage on the shipbuilding contracts. It is important that both of these reprogramming requests be addressed expeditiously since a portion of these funds are needed in order to satisfy near term requirements.

SUMMARY

The Navy afloat forces of the future must have the flexibility to handle a broad range of threat scenarios. The third world threat is increasing as more highly-sophisticated modern weapons fall into the hands of many unstable government forces and of terrorist groups around the world. Constant vigilance and credible deterrence through strength is the price of peace.

As a new threat environment evolves, we must continue to upgrade our fleet capability with a combination of ship platforms able to counter a broad range of hostile environments if we as a nation are to maintain commitments to our allies. Continued emphasis on stable economic production plan funding and competition to ensure additional savings is going to be difficult to maintain.

SHIPBUILDING AND CONVERSION, NAVY

STATEMENT OF VICE ADM. JOHN W. NYQUIST

Mr. CANN. At this point, I would like to give Admiral Cooper and Admiral Nyquist the opportunity to say a few things about requirements issues related to our seapower budget this year. I would like to start with Admiral Nyquist.

Admiral NYQUIST. Mr. Chairman and distinguished members of this committee, it is my privilege today to present the Navy's SCN budget request for fiscal year 1991. Ships in this plan will sustain and upgrade the capabilities of the fleet into the next century.

For more than 40 years the members of this committee have supported a national military strategy that has successfully underwritten worldwide security and stability. That investment is now bearing fruit with clearly positive developments throughout Eastern Europe. The democratization of that part of the world appears to be moving at breakneck speed, but, appearances aside, the Soviet Union remains a formidable military power.

While it is true that the Soviets are scrapping older, obsolescent ships, so far the reductions have been in bodyfat, not muscle. We must be cautious and determined that appearances are followed by actions and deeds.

Even under the most optimistic assumptions of decreased risk from the Communist Bloc, the potential dangers in the rest of the world, particularly the third world, are increasing. To execute the U.S. Navy's mission of strategic deterrence, sea control, power projection, and strategic sealift across the entire range of possible threats, we require quality capable forces in right numbers.

SCN BUDGET

Our fiscal year 1991 SCN budget, as Mr. Cann mentioned, includes $11.2 billion for 15 new ships. The majority of the ships in this plan are force sustainers, not force builders; that is, they will be replacing older ships which have decreased capability to carry out their missions.

I will defer discussion of each of the ships in the SCN plan until the question and answer period and welcome the added expertise of Vice Admiral Cooper to address our strategic and tactical submarine requirements.

Mr. Chairman, that concludes my overview of the budget request. I urge your continued strong support of our vital shipbuilding program. Thank you, sir.

[The statement follows:]

STATEMENT OF VICE ADM. JOHN W. NYQUIST

SHIPBUILDING AND CONVERSION, NAVY (SCN)

Mr. Chairman and distinguished members of the committee, I am Vice Admiral John W. Nyquist, USN, the Assistant Chief of Naval Operations (Surface Warfare) and the sponsor for the Shipbuilding and Conversion, Navy (SCN) Appropriation.

It is my privilege today to present the Navy's SCN budget request for fiscal year 1991. The ships in this plan will sustain and upgrade the capabilities of the Fleet into the next century.

For more than forty years the national military strategy has successfully underwritten worldwide security and stability. That investment is now bearing fruit with the clearly positive developments throughout Eastern Europe. The democratization of that part of the world appears to be moving at breakneck speed, but appearances aside, the Soviet Union remains a formidable military power. We must be cautious and determined that appearances are followed by actions and deeds.

Under the best intelligence estimates we can gather, the USSR will still retain the world's largest military machine. Despite the Kremlin's preoccupation with domestic political and economic reform, modernization of this vast military arsenal will continue. Soviet Armed Forces will almost certainly be smaller in size—but will inevitably be better. Fewer but more competent and motivated officers and enlisted personnel; fewer but more capable ships and submarines; fewer distant area naval operations but more realistic training in local waters—these can produce a force very capable of accomplishing its missions. The question we must ask is whether the smaller but thoroughly modernized Soviet Navy of five years from now will be less capable or more capable of performing those missions. And we must not forget that, whatever the change in the Soviet political-military landscape, the USSR will remain the principal military threat, as it retains the potential, using nuclear weapons, to destroy the United States and our Allies.

As an example, and despite the USSR's escalating economic and social problems, the Soviet Navy had a year of growth in 1989 of which any Navy could be proud. Indeed, in terms of the construction of high-quality, high technology submarines, surface ships and aircraft, as well as the further development and modernization of new weapons/electronic systems and shipyards, this was an outstanding year for Soviet naval power. It is true the Soviets are scrapping older, obsolescent units at an unprecedented rate, but so far the reductions are in "body fat" not "muscle." At the same time, they continue to modernize their shipbuilding infrastructure and yards, giving themselves future flexibility to construct either merchant or naval units as their national interests require.

But even given the most optimistic assumptions of decreased risk from the Communist Bloc, the potential dangers in the rest of the world, particularly the third world, are increasing. To execute the U.S. Navy's missions of strategic deterrence, sea control, power projection and strategic sealift across the entire range of possible threats, we require quality, capable forces in the right numbers.

FY 1991
SHIPBUILDING AND CONVERSION, NAVY
BUDGET REQUEST
(IN MILLIONS OF DOLLARS)

	QTY	FULL FUNDING	ADV PROC	TOA
NEW CONSTRUCTION				
TRIDENT	1	1244.6	143.0	1387.6
SSN-21	2	2342.9	1139.1	3482.0
DDG-51	5	3566.4	3.6	3570.0
LHD-1	1	959.8		959.8
LSD-41 (CV)	1	240.0		240.0
MHC	3	268.1		268.1
AOE	1	398.2		398.2
OCEANOGRAPHIC RESEARCH	1	43.1		43.1
LCAC	(12)	244.7	23.2	267.9
CONVERSION/ACQUISITION/OTHER				
CV SLEP	-	113.1		113.1
OTHER COSTS	-	465.4		465.4
TOTAL SCN	15			11,195.2

VG-1

The ships which are included in our 1991 budget request have roles across the entire spectrum of conflict, from overseas presence during peacetime to general war. At the low end of the spectrum, our peacetime operations enhance deterrence worldwide, support U.S. diplomacy and policy, and provide for rapid response in a crisis. At the high end, our fleet ballistic missile submarines provide the threat of global nuclear response which forms the basic underpinning of our deterrent strategy.

SHIPBUILDING AND CONVERSION, NAVY
FY 1991/94 SHIPBUILDING PLAN

	FY 1991	FY 1992	FY 1993	FY 1994
NEW CONSTRUCTION				
TRIDENT	1	1	1	1
SSN-21	2	-	6	-
DDG-51	5	10	-	10
LHD-1	1	-	1	-
LSD-41 (CV)	1	1	1	1
MHC	3	4	5	-
TAGOS	-	2	3	-
AE	-	-	1	2
AOE	1	-	3	-
OCEANOGRAPHIC RESEARCH	1	2	1	2
AGOS	-	1	-	2
ARS	-	-	-	1
AR	-	-	-	1
LCAC	(12)	(12)	(12)	(11)
SUBTOTAL	15	21	22	20
CONVERSION				
CV SLEP	-	-	1	-
MOORED TRAINING SHIP	-	(1)	-	-
SUBTOTAL	-	-	1	-
TOTAL SHIPS	15	21	23	20

VG-2

It is more important now than ever before to maintain the forward momentum of our shipbuilding program. Recent problems with overseas base rights have underscored the importance of a Fleet which can be sent any place on the globe to show the flag or project power. We must also be concerned that our shipbuilding industry is weakened and the industrial base is eroding. Our ability to rebuild a fleet in time of crisis is considerably diminished.

We expect to reach 551 ships by the end of fiscal year 1990 as new ships already under construction replace aging, marginally capable units which are reaching the end of their useful service lives.

CY 1989 NEW SHIP DELIVERIES

NR	CLASS/DESCRIPTION OF SHIP	NAME AND HULL NUMBER
1	NIMITZ (Nuclear Aircraft Carrier)	USS LINCOLN (CVN-72)
1	OHIO (Strategic Missile Submarine)	USS PENNSYLVANIA (SSBN-735)
1	WASP (Amphibious Assault Ship)	USS WASP (LHD-1)
3	LOS ANGELES (Nuclear Attack Submarine)	USS NEWPORT NEWS (SSN-750)
		USS PASADENA (SSN-752)
		USS TOPEKA (SSN-754)
3	TICONDEROGA (Guided Missile Cruisers)	USS PHILIPPINE SEA (CG-58)
		USS NORMANDY (CG-60)
		USS CHANCELLORSVILLE (CG-62)
1	OLIVER HAZARD PERRY (Guided Missile Frigate)	USS INGRAHAM (FFG-61)
1	WHIDBEY ISLAND (Landing Ship Dock)	USS GUNSTON HALL (LSD-44)
1	TAO 187 (Fleet Oiler)	USS LEROY GRUMMAN (TAO-195)
3	AVENGER (Mine Countermeasures Ships)	USS DEFENDER (MCM-2)
		USS SENTRY (MCM-3)
		USS GUARDIAN (MCM-5)
5	TAGOS 1 (Ocean Surveillance Ships)	USNS AUDACIOUS (TAGOS-11)
		USNS BOLD (TAGOS-12)
		USNS TITAN (TAGOS-15)
		USNS CAPABLE (TAGOS-16)
		USNS TENACIOUS (TAGOS-17)
1	Oceanographic Ship	USNS MAURY (TAGS 39)

THE CONVERSIONS INCLUDED TWO AUXILIARY CRANE SHIPS (TACS)

VG-3

In 1989, we took delivery of 21 new ships and two conversions.The new ships are listed on this slide.

FISCAL YEAR 1991 SCN BUDGET

Our fiscal year 1991 SCN budget includes $11.19 billion for 15 new ships.

I will briefly describe each program for which we are requesting funding in fiscal year 1991.

STRATEGIC SUBMARINE FORCE

We presently have 34 strategic submarines, composed of 24 POSEIDON hulls and 10 OHIO class hulls. Of the 24 POSEIDONS, 12 carry the POSEIDON (C-3) missile and 12 carry the TRIDENT I (C-4) missile. Eight of the OHIO class submarines also carry the TRIDENT I (C-4) and two carry the new TRIDENT II (D-5) missile.

U.S. strategic forces (the TRIAD) provide deterrence to the Soviet Union, which continues to modernize its strategic offensive forces. Deterrence is best assured by having forces which are reliable, responsive, and survivable. The submarine launched ballistic missile (SLBM) is the only TRIAD weapon system possessing all three of these elements and therefore, it serves as the keystone to our national strategic posture. One hundred percent SSBN at sea survivability promotes crisis stability and long endurance provides for escalation control.

On a day-to-day basis, our strategic submarines, with their SLBM's, provide the most economical and single greatest deterrent to nuclear war. These submarines carry almost 50 percent of the strategic warheads in our country's inventory for only about 25 percent of the Department of Defense strategic budget.

OHIO CLASS TRIDENT SUBMARINE

The TRIDENT submarine's overall capability and firepower is unmatched. Of the 17 OHIO Class TRIDENT submarines authorized, eight are making routine patrols from their Bangor, Washington base and two are preparing to patrol with the TRIDENT II (D-5) missile. The TRIDENT force has completed over 140 patrols to date.

The TENNESSEE (SSBN 734) is the first TRIDENT II (D-5) missile capable submarine. Seven TRIDENT submarines are presently under construction. USS PENNSYLVANIA (SSBN 735) was delivered on time and is conducting shakedown operations. The President's strategic modernization plan directs building one TRIDENT SSBN each year. All pre-OHIO Class SSBNs will be retired in the 1990s. It is vital to maintain a minimum building rate of one TRIDENT per year to continue a credible, fully survivable SSBN force at sea into the next century. In the fiscal year 1991 budget we are requesting $1,244.6 million for the eighteenth ship plus $143.0 million for long lead material for the nineteenth and twentieth ships.

ATTACK SUBMARINE FORCE

Recent Soviet announcements regarding submarine force level reductions must be considered in the context of how their overall force capability will change in the next decade. The Soviet plan to decommission their older SS and SSN classes will reduce their force numbers; however, it will do little to reduce their submarine force capability. In fact, these reductions, when coupled with their continued building rate of new submarines of significantly advanced classes, will produce an end-of-decade submarine force that is significantly more capable, although smaller in size.

There are currently 91 nuclear attack submarines and one conventional submarine in the U.S. Force. Of these, 42 are LOS ANGELES (SSN 688) Class submarines.

SEAWOLF (SSN 21) CLASS SUBMARINE

The fiscal year 1991 budget requests $2342.9 million for procurement of the second and third SSN-21s and $1139.1 million in advance procurement for the long leadtime nuclear propulsion plant and hull, mechanical and electrical equipment for follow on submarines of the SEAWOLF class. As directed by the fiscal year 1990 Appropriations Conference Report, a dynamic mission analysis for the SSN-21 at initial operational capability (IOC) date plus ten years (2005) was completed by the Office of the Secretary of Defense in January of this year.

Based on the results obtained from the dynamic mission analysis, the SSN-21 performance will be superior to the best estimate of the threat at IOC and at IOC-plus-ten years in every one of the eight representative attack submarine mission areas analyzed. The SSN-21 represents a revolutionary improvement in warfighting capability. From its inception, the SSN-21 has been designed to meet any threat and optimize its own inherent capabilities to conduct power projection missions in the 21st century.

AIRCRAFT CARRIERS

Our aircraft carriers are deployed worldwide in support of our national commitments. They are capable of executing response options ranging from peacetime presence through general war. Together with their embarked air wings, the carriers have vital roles in strike, anti-surface, anti-air, and anti-submarine warfare across the full spectrum of conflict.

In fiscal year 1988, the Congress appropriated full funding for two NIMITZ Class nuclear aircraft carriers, CVN 74 and CVN 75. Two other CVNs were approved in fiscal year 1983 and the first of these, USS ABRAHAM LINCOLN (CVN 72), joined the Fleet this past year.

SURFACE COMBATANTS

We have made great strides in the past few years in improving the quality of our surface combatants, although fiscal constraints have precluded solving our numerical shortfalls. The soon-to-be introduced ARLEIGH BURKE (DDG-51) and the proven TICONDEROGA (CG-47) will form the backbone of the surface combatant fleet for the foreseeable future. Both carry the most advanced multi-threat combat systems afloat today, and can execute offensive and defensive missions independently or in conjunction with Carrier Battle Groups. The combination of HARPOON and TOMAHAWK has expanded the roles of our surface combatants, complicated enemy targeting, and significantly increased the Navy's offensive power. Anti-Air Warfare capable ship force levels represent our single greatest shortfall.

ARLEIGH BURKE (DDG 51) CLASS GUIDED MISSILE DESTROYERS

The ARLEIGH BURKE Class guided missile destroyer (DDG 51) is by far the most powerful, versatile, and survivable destroyer ever to go to sea. Combining the AEGIS anti-air warfare and SQQ-89 anti-submarine warfare combat systems with vertical launch cells carrying SM-2 surface-to-air STANDARD missiles, TOMAHAWK anti-ship and land-attack cruise missiles, HARPOON, the rapid-fire lightweight 5"/54 caliber gun, and close-in weapons, these ships provide unprecedented destroyer warfighting capability. The ARLEIGH BURKE class also features major advancements in survivability, including reduced radar cross-section, all steel construction with additional armored sheathing and the latest state-of-the-art damage control systems.

There are presently 13 DDG-51 Class destroyers appropriated and under contract. This ship replaces the aging DDG 2 and DDG 37 Class destroyers which are becoming obsolete and will be retired over the next three years. As the DDG 51 program continues, we will build additional destroyers to replace our older cruisers and to build toward our Battle Force Capable force level objective.

The fiscal year 1991 budget includes $3,566.4 million full funding for the second group of five DDG 51s from fiscal year 1990 multi-year procurement and $3.6 million for advance procurement

AMPHIBIOUS WARFARE SHIPS

The primary factors in determining the amphibious force level and ship design are the Marine Corps' lift requirement and the ship to shore assets required to execute the landings.

Our goal is to lift the Assault Echelons of both a Marine Expeditionary Force and a Marine Expeditionary Brigade. The Assault Echelon includes the most critical assault elements needed to seize a beachhead and rapidly build up combat power ashore. These elements must be transported, landed and supported from specialized amphibious ships. The remainder of the landing force makes up the Assault Follow-on Echelon, comprised of the troops, equipment and supplies needed to support and sustain the initial assault. These follow on landing force elements are embarked in Military Sealift Command controlled fleet ships, which may be government owned and chartered or requisition from the private sector.

WASP (LHD 1) CLASS AMPHIBIOUS ASSAULT SHIPS

Congress has fully funded 4 WASP Class Amphibious Assault ships to date. The fiscal year 1991 request includes $959.8 million for construction of LHD 5.

LSD 41 (CARGO VARIANT) DOCK LANDING SHIP

Eight ships of this class are in building and the first of the Cargo Variant was funded in 1988. This year we are requesting $240 million to fund the third LSD 41 (Cargo Variant). This ship will transport and launch amphibious craft and vehicles with their crews and embarked personnel in amphibious assault operations. It will also provide limited docking and repair services for conventional landing craft and LCAC. These ships differ from the original LSD 41 in that they have additional cargo capacity and while carrying two fewer LCAC.

LANDING CRAFT AIR CUSHION (LCAC)

The fiscal year 1991 budget includes $244.7 million for twelve of these modern landing craft and $23.2 million for advance procurement

The LCAC is a fully amphibious air cushion vehicle capable of operating from existing and future well deck ships. It transports weapons systems, equipment, cargo and personnel of the assault elements of the Marine Air/Ground Task Force both from ship to shore and across the beach.

MINE WARFARE SHIPS

For many years, our mine countermeasures capability was inadequate to meet the threat. We are now aggressively addressing that deficiency. We have established a minimum objective of 47 new mine countermeasures units which, in conjunction with our MCM helicopters, will have the mission of clearing U.S. waters and strategic choke points in time of war. The MHC 51 is a new class of ships designed to perform reconnaissance, classification and neutralization of moored and bottom mines in our harbors and coastal waters.

MHC 51 CLASS COASTAL MINE HUNTER

The lead ship of the MHC 51 Class was funded in the fiscal year 1986 appropriation. The fiscal year 1991 budget request includes $268.1 million for three follow on units.

COMBAT LOGISTICS FORCES

Recent concerns over availability of overseas bases have underscored our dependence on these ships to keep our battle forces operating. Combat logistics force ships include multi-product station ships with the speed and armament to remain with the Carrier Battle Groups and single product shuttle ships to carry fuel, ordnance, stores and provisions from advance logistic bases or consolidation points at sea. The primary station ship is the AOE fast combat support ship. Shuttle ships include fleet oilers (AOs/TAOs), ammunition ships (AEs/TAEs), and stores ships (AFS/TAFS). In the event of non-availability of an AOE, one AOR and one AE may be assigned to a Battle Group.

AOE 6 CLASS FAST COMBAT SUPPORT SHIP

In fiscal year 1987 the Congress appropriated the funds for the lead ship of the AOE 6 Class. We plan to procure one of these ships for each Battle Group. The fiscal year 1991 budget includes $398.2 million for one of these ships.

OCEANOGRAPHIC SHIPS

We are continuing to address the block obsolescence of our 1960-vintage oceanographic ships. The T-AGS ship requested in the fiscal year 1991 SCN Program will be a replacement for ships that have exceeded their effective service life and are technologically inadequate for modern complex oceanographic operations. The replacement ships will be multi-mission capable—performing ocean survey and data collection in support of fleet operations and systems development. The fiscal year 1991 request includes $43.1 million for construction of one TAGS (coastal) oceanographic vessel.

OUTFITTING/POST DELIVERY

We are requesting $231.1 million in fiscal year 1991 for outfitting. Outfitting funds purchase repair parts and consumables to fill initial ship allowances for ships approaching delivery.

The fiscal year 1991 budget also includes $154.5 million for post delivery. Post delivery funds are used to pay for all work required to correct deficiencies identified during trials or post delivery.

Mr. Chairman, that concludes my overview of the 1991 SCN Budget Request. I appreciate this opportunity to appear before your committee to assist you in your deliberations on the Defense Appropriation Bill and urge your continued strong support for our shipbuilding program.

UNDERSEA WARFARE

STATEMENT OF VICE ADM. DANIEL L. COOPER

Senator **INOUYE**. Admiral Cooper.

Admiral **COOPER**. Thank you, Mr. Chairman. I would appreciate having my statement entered into the record, and I would like to summarize just a few points.

Despite the changing world that you mentioned and the pullback of troops in Europe, obviously our national military strategy has not changed. The attack submarine is required to carry out this far-forward strategy.

The threat itself, as far as the submarine force is concerned, has not, in fact, diminished. The Soviet Union continues to build submarines at an undiminished pace. Nine submarines were completed last year, and this year we expect [deleted]. General Akhromeyev, when he was over here just last week, stated that he would continue to build probably four or five nuclear submarines per year, each of which we know to be very capable.

SSN-21

The current class of submarines we are now building, the I-688, cannot incorporate the further improvements we need in order to face this threat. The SSN-21 program is now 8 years into a 13-year shipbuilding program. It has met all of its requirements. The Secretary of Defense has submitted to Congress a risk and concurrency statement in which he talked about the risk of both the BSY-2, the fire control system on the SSN-21, and the SSN-21 itself. He said both of them are moderate in risk.

He also said, however, that the BSY-2 was low in risk for both performance and schedule. He said that the SSN-21 was for low in risk for technical capability

There is no reasonable alternative now to the SSN-21. We have already invested over $5 billion in R&D, design, and construction for the SSN-21 and the lead ship is now being built.

SSBN'S

I would also like to mention SSBN's. As you know, we are asking for the 18th Trident submarine. The ninth submarine, the *Tennessee*, is now at sea with the D-5 missile. As you know, last year we discovered a flaw in the missile itself. We corrected that, and we have now had eight very successful shots. The first D-5-equipped SSBN is now at sea on deterrent patrol. There are seven others under construction, and we are now requesting No. 18. The advantages of the D-5 missile are its accuracy, which gives it the flexibility over the entire target base, and its longer range, which gives us a larger area in which to patrol, and, therefore, increases our survivability.

The current issue that is in the papers has to do with the Rocky Flats plant and the fact that we need certain elements of this plant in order to produce more D-5 missiles. The fact is that the status of Rocky Flats will not affect the 18th Trident because this ship will not be loaded out for about 8 years.

We have a solution to this problem for the first three SSBN's, which will, in fact, go to sea with the D-5 missile. The third one, the *West Virginia*, will go to sea next summer, a year from now, and will have the D-5 missile on board. We have other steps that we can take. We do not need to make a decision as to what effect Rocky Flats will have until next December. So, in fact, we have a way to get around any problem with Rocky Flats, and that should not, in and of itself, affect the decision on procurement of the 18th Trident.

Thank you, sir.

[The statement follows:]

STATEMENT OF VICE ADM. D.L. COOPER

Mr. Chairman and distinguished members of the Committee, I am privileged to report to you the status of the submarine force. During today's review, I will discuss the current and future requirement for attack submarines in light of recent changes in the world, and, more specifically, how the execution of our national military strategy, the projected threat, and the advance of technology continues to substantiate the absolute need for the SEAWOLF (SSN-21) Class of submarines. In addition, I will discuss the status of our ongoing TRIDENT submarine modernization program, and why this program is vital to our national security and must be sustained.

There is no question that the recent events in the Soviet Union and Eastern Europe have altered the social and political makeup of the world. These changes have served to remind us of the rapid and unpredictable nature by which political circumstances and intentions can change. Thus, when addressing the requirement for a modern attack submarine force, we must not allow ourselves to focus on perceptions and platitudes. We must recognize the requirement to counter the continuing threats that still directly challenge our worldwide vital interests. In fact, although dramatic reforms have taken place in the world, the maritime component of our national military strategy, which is fundamentally based on our dependence as an island nation, has not changed. This strategy requires us to maintain the capability to provide an early response to a broad spectrum of possible conflicts and to be able to project naval power with a sustainable, survivable, far-forward presence. The fundamental characteristics of our attack submarine force, stealth, mobility, firepower and endurance, are an essential part of the sustainable, survivable, far-forward naval presence required by our national military strategy.

As the world shifts from a bipolar to a multipolar system our involvement in regional crises can be expected to increase. With the continued proliferation of advanced technology weapons to Third World nations, the mission of regional crisis containment will become more difficult. Attack submarines provide invaluable options in executing this important phase of our national military strategy. In a crisis, SSNs can rapidly be deployed to any ocean of the world, gather intelligence and surveillance information covertly, and remain on station unsupported in hostile waters for long periods. While on station, the SSN can also provide the Battle Force Commander with significant strike capability, mining and special forces insertion capability—all while remaining completely undetected. When no longer needed, the submarine can quietly be withdrawn. This mobility, coupled with the on station endurance, survivability, and power projection capability of an attack submarine, provides unique flexibility in controlling a broad spectrum of regional crises and conflicts. Thus, the submarine force creates leverage out of proportion to its size because an adversary never knows whether or in what number submarines might be present.

If conflict escalation control fails, leading to a major regional involvement or global conflict with a maritime power, the far-forward covert presence of the attack submarine force can "seize the initiative," and quickly neutralize enemy forces before they leave home waters. If enemy forces can be contained close to their homeland, they will not be able to inflict harm to U.S. and allied forces or to disrupt the flow of resources between the U.S. and our allies.

Since the need for attack submarines to execute our national military strategy has not changed, the requirement for the specific type of submarine needed to implement that part of the strategy is driven by the projected threat capability and the missions which we will execute. Although the threat of nuclear war and the invasion of Europe may have decreased, the threat from the Soviet's rapidly modernizing and increasingly capable submarine force has not. Recent intelligence reaffirms that the Soviets are firmly committed to attack submarine development and production. Some projections may indicate that the Soviet attack submarine force level will decrease. This quantitative reduction in force would be solely due to the retirement of their oldest, less capable classes of submarines. Simultaneously, the Soviets are continuing to produce markedly improved submarines assisted by the acquisition of western technology and a dedicated, well funded research and development program. Thus, the Soviet's projected force reductions, coupled with a building rate to modernize their forces, will produce a 21st century submarine force significantly more capable, although slightly smaller in size.

The United States Submarine Force has maintained its historic edge in undersea superiority and its growing role in power projection capability because our force has consistently been superior in quality. We have never had equal numbers. We have achieved this qualitative superiority through the systematic modernization of our force in the three vital areas of submarine performance—weapons, sensors, and platform capability. This modernization of force capability has been centered mainly around the *Los Angeles* (SSN-688) Class of submarines. originally designed in the late 1960's and initially delivered in 1976, the *Los Angeles* Class has proven to be a versatile, flexible, and effective platform. To keep pace with threat technological advances, this class has incorporated over 25 major and 2,000 minor improvements in the last two decades. This has resulted in nearly a complete redesign of the interior spaces of the original submarine and a substantial improvement in its capability. The newest ships, therefore, have been designated the Improved 688 (or 1688) Class.

First delivered in 1988, the 1688 Class of attack submarines wields increased firepower with the addition of 12 vertical launch TOMAHAWK missile tubes, an improved combat system (AN/BSY-1), improved quieting, and new under-ice and mining capabilities. In the process of installing all of these improvements, however, we have exhausted the design weight margin of the original 688. The 1688 cannot physically accommodate the changes necessary to incorporate the next generation of technology to face the projected threat of the 21st century.

With strong Congressional support, the SEAWOLF program was begun eight years ago to meet the projected ASW threat and to provide a balanced power projection capability option in the execution of our national military strategy in the 21st century. When SEAWOLF joins the fleet in 1995, she will take to sea:

The ultimate in 20th century stealth technology—The SEAWOLF will be the quietest submarine in the world at any speed. In fact, SEAWOLF will be over 30 times quieter than our original 688 Class of submarines. The SEAWOLF's stealth, coupled with other onboard systems, will give her a better probability of survival and allow her to operate in any area of the ocean while conducting ASW and power projection missions.

Double the firepower of the most advanced operational Soviet submarine—SEAWOLF's torpedo room will carry TOMAHAWK (sea and land-attack) missiles, HARPOON missiles, MK-48 ADCAP and CCAPS torpedoes, mines, and when developed, remotely operated vehicles.

Highest tactical speed of any submarine in the world, providing greater search effectiveness and lower probability of counterdetection. In a submarine-on-submarine encounter in open ocean, tactical speed is the most significant factor in determining the success of the mission.

Sufficient design margin for growth to incorporate future technology advances. We have utilized advanced technology design procedures to construct SEAWOLF to allow efficient modernization and maintenance to take place throughout the ship's life. This will also result in reduced operating and support costs.

Throughout the eight years of the SEAWOLF program, close Congressional and DOD oversight has resulted in numerous reports, audits, reviews, analyses, and hearings which have probed every aspect of the program. Every problem and issue raised by these inquiries has been or is being resolved by the Navy to ensure that the SEAWOLF will meet all of its Top Level requirements.

One of the specific issues currently being raised is the effectiveness of the SSN-21 against the projected threat. The congressionally directed initial operating capability (IOC) plus ten-year dynamic mission analysis, completed by DOD early this year, clearly showed that the SEAWOLF will be superior to the projected threat at IOC plus-ten-years. This mission analysis was conducted using the same mission scenarios as previously accepted studies and a threat which was approved by CIA, DIA, and the Navy intelligence community. An SSN-21 Early Operational Assessment, recently completed by the Navy's Operationai Test and Evaluation Force, also concluded that the SEAWOLF will be operationally effective against the projected threat.

Another issue being raised is the status of the development of the SEAWOLF's AN/BSY-2 combat system. This program, after initially experiencing difficulties in software development, is on schedule and will comply with all applicable DOD directives. Learning fron previous ship combat system design integration, we have established a team of top shipyard, Navy, and contractor personnel to ensure the timely integration of the BSY-2 into the submarine. The SEAWOLF will be delivered with a very capable BSY-2 combat system sufficient to meet the threat.

There is a requirement for positive action on our $178M reprogramming request. The SEAWOLF lead ship cost increase was due mainly to unexpected changes in economic factors, such as labor rate escalation and increased cost of equipment due to higher quieting standards. Specifically, while estimated man-hours to construct SEAWOLF have remained constant, as originally projected, actual shipyard rates and the costs of the shipbuilder-furnished material and equipment have risen. It is absolutely vital to the SEAWOLF program execution that the congressionally directed reprogramming requested be approved promptly to preclude costly delays in the construction of the lead ship.

Over the past eight years, the Navy has invested over two billion dollars in research and development to design, develop and test shipboard prototype components. The component testing conducted to date on the SSN-21 equipment is unparalleled in previous submarine programs. The submarine success record of delivering submarines that meet all design requirements is clear, stretching all the way back to the NAUTILUS and POLARIS shipbuilding programs. The SEAWOLF will meet all of its Top Level requirements when delivered in May of 1995.

The SEAWOLF program is on schedule and meeting all of its requirements. As a result, there is no valid justification to delay follow-on SEAWOLF class submarines by concluding that additional time will somehow provide us with a more capable and cost-effective submarine. In fact, delaying the award of additional SSN-21s until the lead ship completes post-delivery testing would be catastrophic to our nation's undersea superiority and would also result in greatly increased program cost. Without a continuing new construction workload, the two shipyards would experience voids in key construction trade work as early as 1992. I am not an expert on the submarine production base, but I am convinced that the smaller component vendors who are so vital for the quality specifications for both submarine safety and nuclear safety components are now in a fragile position. A cut in the number of SSNs we are requesting would have a major impact.

When the NAUTILUS transmitted the historic message "underway on nuclear power" in 1955 as she steamed down the Thames River, submarine warfare was revolutionized. Since that time, with strong Congressional support, we have maintained undersea superiority and a growing power projection capability through the continued modernization of our submarine force. We cannot afford to relinquish this superiority. The SEAWOLF's revolutionary improvements in ASW and power projection capability are a key to the successful execution of our national military strategy across the entire spectrum of possible conflicts in the 21st century.

STRATEGIC SUBMARINE FORCE

The goal of the U.S. strategic deterrent forces (TRIAD) is to deter adversaries from committing aggression. This is best assured by reliable, capable, and responsive strategic forces with sustained survivability. Strategic submarines (SSBNs) possess all these necessary attributes which, combined with the invulnerability of the SSSN force, result in a viable and survivable stabilizing strategic deterrent that is a keystone of our national strategic posture.

Our newest class of missile-carrying submarine is continuing a very successful strategic modernization program, the TRIDENT II (D-5) missile program. This program is reaching maturity at precisely the right time in our nation's history; it will enable us to safely weather the period of strategic and defense uncertainly which lies ahead. The TRIDENT II (D-5) missile, with its improved accuracy, greater range, and larger payload, allows the seagoing portion of our TRIAD, for the first time, to engage the full spectrum of targets. As you know, some problems with the initial TRIDENT II (D-5) submerged launch were experienced last spring. The problems were identified as deficiencies in the design of the missile's nozzle and were quickly corrected, proving once again the value of the superb expertise which resides in the Navy's Strategic Systems Program Office (SSPO). Since the modifications to the missile nozzle have been installed, seven successful test launches have been completed. The TRIDENT II (D-5) program achieved initial operational capability (IOC) in March 1990, two years ahead of the original schedule. The fiscal year 1991 budget requests funding for 52 TRIDENT II (D-5) missiles. The recommended procurement profile is required to support TRIDENT submarine loadouts and the vital evaluation test programs which ensure our confidence in continued system reliability and accuracy.

In March 1990, the USS TENNESSEE (SSBN-734) became the first TRIDENT II (D-5) missile-capable ship to deploy from the new operating base at King's Bay, Georgia. Seven TRIDENT II (D-5) capable submarines are presently under construction. The President's budget is requesting funding for the procurement of the 18th TRIDENT submarine and advanced procurement for the 19th and 20th. These TRIDENT submarines will replace aging Poseidon and TRIDENT I backfit submarines when they reach mandatory retirement toward the end of this decade. The eight Pacific Fleet TRIDENT I capable submarines will also be modernized with the TRIDENT II (D-5) starting with the USS OHIO as she enters her first overhaul period in 1993. Moving to an all D-5 force has important advantages. The increased range and more potent warhead not only adds targeting flexibility, but enhances SSBN survivability by expanding the operational patrol areas for the TRIDENT submarine. Logistic support will also become more cost-efficient by having a common missile. This effort, combined with the continued TRIDENT submarine new construction program, will result in the complete modernization of the strategic submarine force. Our goal of 21 operational TRIDENT submarines, with two or three TRIDENTs in overhaul, is consistent with our START negotiations where we have agreed in principal with the Soviets to exempt submarines in overhaul from accountability in START. This most important and highly successful program deserves your strong continued support.

Recently, concern has been expressed over the shutdown of the Department of Energy's plutonium component plant at Rocky Flats and its potential impact on the TRIDENT program. Rocky Flats is the single supplier of plutonium warhead components which includes the MK-5/W-88 warhead carried by the TRIDENT II (D-5) missiles. The current plant shutdown will not affect the loadout of our next TRIDENT II (D-5) submarine, USS PENNSYLVANIA (SSBN-735) in the fall of 1990. Current estimates indicate that the plant should reopen soon which will enable MK-5 warhead production to meet projected needs. Therefore, Rocky Flats should not be a factor in considering the TRIDENT submarine and the TRIDENT II (D-5) missile request in the fiscal year 1991 budget.

The strategic submarine force is unquestionably a cornerstone of our strategic deterrent force by virtue of its survivability, reliability, and capability. The ongoing modernization of the strategic submarine force is absolutely vital to our national security and must be sustained. The TRIDENT program warrants the full support of Congress.

Senator **Inouye**. Mr. Secretary?

Mr. **Cann**. That is all I have at this time, Mr. Chairman.

RETIREMENT OF SOVIET SHIPS

Senator **Inouye**. Before I proceed with questions relating to specific projects, both of you admirals mentioned the scrapping of Soviet ships. Can you give me a description, the nature and number of ships that the Soviets have scrapped in the last, say, 2 years?

Admiral **Cooper**. I can talk specifically concerning submarines. They have said that they are going to scrap their first classes of attack submarines. Those are what we call the Hen class, the Hotel, the Echo, and the November. There are approximately 30 of these submarines which they have stated they are going to scrap. We know that these classes of submarines have not been good for about the last 10 years. They have not operated well, they are noisy, and they have had a lot of material problems.

You may remember about 6 months ago there was a picture in the paper of an Echo-class submarine with a lot of smoke coming out of it. I do not know exactly what happened. I know they towed it into port and it has not gone to sea since.

So the answer for the submarines, I would say, is that they have said they are going to scrap their first 30 nuclear attack submarines. We have not seen much motion to that effect yet, and for the ones they do scrap, they are bringing on line a much more capable submarine in the Akula and the Victor III's.

Senator **Inouye**. When was the decision to scrap these boats made; before or after glasnost?

Admiral **Cooper**. I would have to get that for the record. I would say probably a little bit after what we recognize as glasnost, but that is a guess, and I would have to get that for the record.

[The information follows:]

The Soviets announced that they would retire their Type I classes of nuclear attack submarines (Hotel, Echo, and November) after a serious casualty occurred to one of their Echo Class submarines in the Norwegian Sea in June of 1989. This decision was made after the start of glasnost.

Admiral **Nyquist**. Mr. Chairman, I think Admiral Trost mentioned to you when he was here last month that there are about a total of 40 ships and submarines. Admiral Cooper mentioned about 30 submarines. That would leave some number of surface ships, principally the older *Krivak* destroyers, ships that have long seen their capabilities diminished to the point that they were seldom operated. They were held in much a cadre status.

So the ships that we see them decommissioning had already passed their prime. They were held essentially in reserve, and they would not have been used unless it would have been a last ditch effort. In the meantime, we have been and are in the process of retiring a large number of our own ships, but we see the Soviets decommissioning their older ships that are not capable in today's environment.

Senator **Inouye**. I would assume that these ships are now being replaced. What would be the nature, description, and number of ships that are being built to replace these old ones?

Admiral **Nyquist**. I would also take that for the record, Mr. Chairman, but in general in the surface navy they are still building the *Kirov*, the nuclear battle cruiser, if you will, which is a very capable ship with a vertical launch system similar to our own. They are building UDALOY destroyers which are very heavily armed with cruise missiles, and they have three carriers which are about the size of ESSEX-class carriers that we remember. One is being tested at sea; one is being fitted out; and the other is still on the building way.

So they have major construction programs going on, and of course in many cases they do not reveal those to us because they build them under cover, so we kind of see them as they come along. The carriers are big enough so that it is not possible to do that. They are building modern quality ships.

[The information follows]:

Soviet naval construction has continued at a high level. 1989 marked one of the best years for naval shipbuilding in a decade, and this high construction rate is expected to continue in 1990. With each succeeding class, the Soviets improve the overall combat capabilities of their Navy, despite numerical reductions in the order of battle. Technological advances in sonars, quieting, cruise missiles, point defense systems, electronic warfare, command and control, and aircraft operations allow the Soviets to scrap 1950s and 1960s era platforms (KANINs, RIGAs, SKORYYs, and SVERDLOVs from the surface fleet, and old diesel and first generation nuclear submarines from the submarine fleet) and replace them with new platforms in smaller numbers. In this regard, the actual tonnage added to the fleet in 1989 exceeded tonnage lost to scrapping.

A good illustration of the growing capability and technological sophistication of new naval platforms versus the old and obsolescent units that are leaving the fleet is to compare the combat capabilities of the Soviet's newest cruiser class (KIROV), with the SVERDLOV, which is reaching the end of its service life and is already being phased out of the navy. In terms of anti-air and surface warfare capabilities, KIROV CGNs represent a quantum leap forward over the SVERDLOVs (or any other previous Soviet cruiser class). Technological advances featured on the KIROV include nuclear propulsion, advanced long range surface-to-surface and surface-to-air missiles (SAMs), improved communications capabilities, and advanced radars. In addition, the Soviets have continued to upgrade the KIROV, with the third and fourth KIROVs fitted with two new SAM systems. This comparison illustrates that, while the overall size of the Navy is shrinking, qualitative improvements more than make up for the quantitative shortfall.

In terms of the numbers of new units entering the fleet, Soviet shipbuilding has remained at a high level throughout the 1980's, with at least 10 principal surface combatants and 8 submarines launched every year since 1986. Of note, 1989 marked an exceptionally good year for the Soviet Navy. The number of combatant submarines launched in 1989 (nine) equals or exceeds totals for each year since 1982, and in terms of tonnage of surface combatants accepted by the Soviet Navy, 1989 was the most productive year in over 2 decades.

Nine principal combatant classes remain in production, including two carrier classes, two cruiser classes, two guided missile destroyer classes, two frigate classes and a corvette class. In 1989 nine major surface combatants were launched, and an additional 11 Soviet-built major combatants, launched in previous years, were accepted by the Soviet Navy and one by the Maritime Border Guard. This high building rate is expected to continue in 1990, with the launch of [deleted] major combatants [deleted].

Submarine production remains a top priority as evidenced by the nine units launched in 1989, which included one AKULA, one VICTOR III, and one SIERRA class SSN, one TYPHOON (ending construction of this class) and one DELTA IV SSBN, and four KILO diesel submarines. This high rate will probably continue in 1990 with [deleted] additional submarines launches, indicating submarine construction has not suffered under perestroika.

Senator INOUYE. So the shipbuilding program has not ceased?

Admiral NYQUIST. No, sir; as a matter of fact, as I know Admiral Cooper would be very happy to add, they built nine submarines last year. I think the majority of them were nuclear, but a number were very modern diesels; and this year it looks like it will be about the same, whereas we deliver about two submarines per year.

Senator INOUYE. The Soviets built nine last year. How many did we build?

Admiral COOPER. Last year we commissioned three. We got authorized last year, as you remember, only one, the last of the 688-I class. Two years ago we were authorized three submarines, two I-688's and the first SSN–21. This year we are asking for two SSN–21's.

Senator INOUYE. This year the Soviets are going to build how many ships?

Admiral COOPER. Last year they built nine; this year we expect them to build [deleted]. Of the nine that we saw last year, four of those were the Kilo-class diesel submarines. We would expect two of those to be exported. The other five were nuclear submarines. Three of them were attack submarines, and two of them were strategic submarines: one Delta IV and one Typhoon.

Senator INOUYE. Now we have decided to decommission our ships and the Soviets are doing the same. Are they going to be scrapped, or will we see them sailing with third world flags?

Admiral COOPER. Oh, I think they will be scrapped. I think they are in such bad condition that there is no third world country that would want to take them. As you know, they exported one Charlie-class submarine to India, and India is attempting to use that submarine. I think there is no other country that would want to take their older nuclear submarines. I think they will be scrapped or just not used.

Senator INOUYE. What about our ships?

Admiral COOPER. As we go into decommissioning, our submarines go to the shipyard and eventually are cut up and completely scrapped.

Admiral NYQUIST. On the other hand, Mr. Chairman, there is an interest in the surface combatants that we are retiring now as well as some of our older amphibious ships by our allies. As you may know, we transferred eight of our smaller frigates to Pakistan in 1989. We transferred four of those same ships to Brazil this last year. They were delivered in December. So there is interest among our allies in those ships as well as the guided missile destroyers that we are decommissioning now.

SHIPBUILDING COST OVERRUNS

Senator INOUYE. Mr. Secretary, for several years the GAO has reported on shipbuilding cost overruns, and they noted a Government liability of about $1.5 billion. Navy, however, has testified that the cost of all the overruns are being covered by existing funds.

Is this still the case?

Mr. CANN. Mr. Chairman, I understand that over the last several years the Navy has been able to contract for ships and has, through the benefit of change in escalation rates in competition, been able to cover their shipbuilding costs very well.

I have been back at the Pentagon now for 2 months, and I must tell you that I have spent a great deal of time in the shipbuilding discussions. At the present time, I have asked the Commander of Naval Sea Systems Command, Admiral Hekman, to put together for me a complete evaluation of our ship cost adjustment requirements. To be perfectly honest, I have not yet come to grips with that.

I think that we clearly have some ship cost adjustments and some problems in making sure that we are able to pay all our bills this year, but I am not yet in the position to discuss them in detail.

Senator INOUYE. When will we know about the unfunded liability of contracts, Admiral Hekman?

Admiral HEKMAN. I think the question is, When will we know where we stand on this issue?

Senator INOUYE. Do you have those numbers available now?

Admiral HEKMAN. I will be making a report to the Secretary on the "Ship construction" account hopefully next week, and I will have all of the numbers evaluated by that time. I must reinforce what the Secretary said, however, on this reprogramming request, in that I have an immediate cash-flow problem in the SCN account which is dependent upon this short-term reprogramming.

I can say for the record, between 1981 and 1989 the account costs have been $5 billion less than the moneys appropriated for shipbuilding. However, in that same time period the Gramm-Rudman-Hollings reductions, congressional rescissions, reprogrammings to other appropriations have reduced our surplus to essentially the break-even point or less, and I am getting those numbers together at this time.

GUIDED MISSILE DESTROYER CONTRACTS

Senator INOUYE. Mr. Secretary, your prepared statement notes that you will be awarding two annual guided missile destroyer contracts of five ships each instead of using the multiauthority provided last year. I understand that the DDG–51 budget was reduced by $125 million with the assumption of multiyear savings.

Is your budget request sufficient to purchase five guided missile destroyers on an annual contract? Put another way, Will there be a shortfall?

Mr. CANN. I am going to ask Admiral Hekman to respond, because I have not gotten into that in detail.

Admiral HEKMAN. The reduction that was set into the program was not agreed to by my estimators at the time, and my position remains that I need those funds.

Senator **Inouye**. So you will need extra funds?

Admiral **Hekman**. I need the $110 million that was removed. My estimates were at a break-even point as they always are, and that reduction was made outside my estimating shop, sir. I am on record as saying that I still need that money.

FORCE STRUCTURE

Senator **Inouye**. The Army is planning to reduce its number of divisions and the Air Force a number of fighter wings. Are we maintaining our force structure?

Mr. **Cann**. As you know, Secretary Cheney has asked for a major warship review which is ongoing. The two warships that are under scrutiny at the present time are the DDG-51 class and the SSN-21. It is a multifaceted review which should be complete next month in time for the Secretary to consider the POM 1992 budget decision and the fiscal year 1992 budget decision.

Imbedded in this review is not only the question of force structure, but the issue of industrial base, shipyards, and maintaining our ability to build ships over a period of time.

I think from the Navy's point of view, we have two ships that we feel very strongly about, the DDG-51 and the SSN-21.

The DDG-51, which is essentially our basic combatant that we are going into the 21st century with. Our requirements for those, of course, will have to be matched up eventually with a combination of requirements that include not only the numbers of carriers and carrier battle groups that we finally end up with as a result of some of the machinations that are going on in the Pentagon right now, but also our ability to operate independently with surface action groups.

I am sure that Admiral Nyquist could discuss this at great length.

By the same token, the importance of the SSN-21 program is well understood. Our ability to maintain control of the sea lanes and to do what we need to do in the absence of air coverage in the northern latitudes and so forth is well understood.

The success of our Navy over the last several years has been exemplified by the ability of the Navy to maintain our technological lead. The way for us to maintain that technological lead, at this point, is to field these two new warships, because they are designed and will be able to provide capability against the two primary threats that we think are the most important. For the surface ship we are concerned about low cross section cruise missiles. In submarines, obviously the Soviets and others have learned a lot about the importance of noise quieting; therefore it is mandatory for us to maintain our technological lead in this area.

As Admiral Cooper said, while the 688-class and the I-688-class, are very fine and have carried us very well, it should be remembered that the 688-class was introduced in the very early 1970's, and the SSN-21 represents the first opportunity we have had to introduce a new submarine.

I was in the building for 15 years prior to my escape for 5 years, and I would point out that the difficulty in trying to start the SSN-21 program initially was the fact that our submarine force has been so successful with respect to the technological superiority we gained over the Soviets through the 1970's and early 1980's.

It was not until we really got a clear measure of what was going on with the Akula program and others that we began to realize that we needed to get on with the business of developing a new capability. That likewise goes for the surface ships.

So, from a total force building point of view, I think there is real dedication on our part to make sure that we have matching forces to meet our mission requirements. But I will have to tell you quite honestly, Mr. Chairman, I have no idea where this summer's reviews are going to bring us in terms of total numbers and where our force structure will be a year from now.

CARRIER BATTLE GROUPS

Senator **Inouye**. We have been receiving reports in the printed press and elsewhere that the carrier groups are going to be reduced from 14 to 12. Is there any validity to that?

Mr. **Cann**. From my point of view, having gotten here just in time for some of the discussions, it is clear to me that everything in the force level area is up on the table for some form of discussion. At the present time there are various alternatives that are about to be discussed at all levels by the Secretary of Defense and the Secretaries of the services. I would say that none of this will be even remotely clear until next fall.

Senator **Inouye**. Thank you, Mr. Secretary.

Senator Specter.

Senator **Specter**. Thank you, Mr. Chairman.

Picking up on what Chairman Inouye has asked about the aircraft carrier group, I noted the testimony of Vice Admiral Dunleavy, the Assistant Chief for Naval Operations for Air Warfare, before the Senate Armed Services Committee to this effect, "The ideal, the utopia, the great life we would all dream about is 22 carriers."

And the Post, on May 14, just yesterday, contained this notation, "but a strongly worded cover memo from Navy Secretary Garrett to Secretary Cheney states, 'As I have discussed with you and the Deputy Secretary, the naval force structure best suited to perform reliably or enduring missions of strategic deterrence and maritime superiority in the coming decade is centered on 14 aircraft carrier battle groups, 3 fully manned Marine expeditionary forces, and 21 Trident submarines.' "

My question, Admiral Nyquist, to start with is, If we go to 12 carriers, what do we leave out?

Admiral **Nyquist**. Of course, we are here defending a 14-carrier battle group. If you take 2 away, Senator, it is just like anything else, you start peeling away our capability and we then start to respond to those same commitments that are levied on us with fewer carriers. And that puts more and more pressure on our people.

So, in coming down, if we are talking about a level of 12 carriers, then we have to look seriously at what commitments are we going to give up. But, as Secretary Cann said, the whole issue of force levels is a very fluid one now, and will continue through the rest of this year. For example, when Admiral Dunleavy cited the No. 22, that is the JCS required fiscally unconstrained number. And as you know, we have in recent years stated a requirement for 15 as a prudent risk.

We recognize that through the rest of this century, last year, that we would have to get along with 14. So in doing this review, it becomes very difficult, but a process in which you say looking at our commitments, looking at the United States as an island nation and a maritime power, with a philosophy of a forward-deployed national maritime strategy, then we have to think hard about what we are going to give up if we come down to some number below where we are now.

So it is a give-and-take proposition, but the one thing we want to make sure of is that if we do come down that we do not put an increasing load on our people.

Senator SPECTER. Well, Admiral Nyquist, my question to you remains, What is it that we have to give up? We are struggling on this subcommittee, balancing many competing requests on the appropriations. And now you talk about 22 carrier groups fiscally unrestrained. So you repeat that number.

You talk about 15 carrier groups and you use the word "prudent." And I understand that there are analyses which have to be made, but when we compare expenditures for two missiles, a mobile MX and Midgetman, and we look at the B-2 bomber as we talk about strategic power in an era where that appears to be less necessary, at least in terms of experience and projected probabilities—possibilities, we need to know from you, Admiral, What is it we have to give up?

We talk about commitments and a bare minimum of 14 carriers, now what is it that we give up specifically if we go to 12? What cannot we cover?

Admiral NYQUIST. Senator Specter, there will be commitments that will have to be reviewed with a 12-carrier battle group level. I am not trying to duck your question, but that same question is one that is consuming us as we speak. So, as you are concerned, we are concerned. And Secretary Cheney and the whole DOD establishment is looking across the board at all those requirements.

With this particular fiscal year 1991 SCN plan, however, these ships are required in either case. But, of course, we owe you an answer on what is the impact if we go to 12 carriers, and we are working on that in DOD now. And given the events that have been shaking the world, this is a major project for everybody in DOD, from Secretary Cheney on down, and we are working very hard at it.

Senator SPECTER. Well, Admiral, I do not accept the answer that commitments have to be reviewed. Commitments are in existence. A commitment is a commitment. Our capabilities are being reviewed, as to what commitments we can cover. And I believe that this subcommittee, speaking for myself, this Senator needs to know what commitments will be unfulfillable.

If you do so much with 22 carriers—well, let me put the question to you specifically, and perhaps you will supply it for the record, after you have the further analysis. You would like to have 22 carriers. Now what is it that you cannot do between 22 and 15? Because you say 15 is the prudent number. What is it that you cannot do between 15 and 14? And what is it that you cannot do between 14 and 12?

And some people are talking about 10.

Now for us to make an intelligent selection of choices, we need to know what you cannot do with each of those decreases, and in specific terms. And I understand the protocol of presenting a united front behind your Secretary. And when I see the Post report about a strongly worded cover memo, and it says—and I think these words are important, and I know that the Secretary of the Navy consults with you gentlemen when he comes to his conclusion—strongly worded cover memo centered on 14-carrier battle groups. That is pretty strong language.

So if you are not prepared to give it today, I can understand that you have to regroup, but this is something I think we really need to know.

Admiral NYQUIST. Yes, sir; and we all are working to that end, Senator. And we will provide that as best we can for the record at this point in that process.

[The information follows:]

The differences between these numbers represent how much risk we are willing to accept, which deployment commitments are met and for what duration, and how contingencies might affect OPTEMPO/PERSTEMPO guidelines.

The difference between 22 and 15 is what would be required in a Global War with the Soviet Union and what we consider to be a prudent carrier force level to meet everyday world-wide deployment commitments and crisis response.

Fifteen is a prudent aircraft carrier force level. What is it that we can't do with one fewer carrier? The difference lies in crisis response, both in timeliness and numbers. We can still meet our forward deployment commitments with 14, but during a crisis we might have to respond with less carrier coverage than desired.

For example, following the Israeli capture of Sheik Obeid and the murder of LCOL Higgins in August 1989, naval forces responded quickly, backing up the President's diplomatic initiatives. In the Mediterranean, the CORAL SEA battle group weighed anchor early from Alexandria, Egypt, and was ready to launch air strikes within twelve hours after receiving orders. The battleship IOWA departed Marseilles, France, steaming east toward Lebanon with a Marine Amphibious Ready Group. Commander Sixth Fleet, embarked in his flagship, the cruiser BELKNAP, took charge as force commander and headed to waters off Lebanon, canceling a port visit to the Soviet Union. As a contingency against Iran, the AMERICA battle group sailed from Singapore to the Arabian Sea. The carriers RANGER, steaming in the South China Sea, and FORRESTAL, operating off Norfolk, prepared for surge contingency operations. The full range of retaliatory response, from "visible on the horizon" presence to carrier air strikes, naval gunfire support and amphibious landings, offered by these naval forces effectively prevented further bloodshed, stabilized the situation, and strengthened the President's diplomatic hand. Any reduction in carrier force level represents some degree of additional risk and could limit the decision makers options during crisis (e.g., a delay in responding to a crises or lack of a carrier battle group substitute in another theater).

Our current deployable aircraft carrier force level (14) ensures that we can fulfill peacetime presence requirements while retaining some flexibility to surge to meet contingencies or respond to crisis outside our traditional deployment operating areas. With 14 aircraft carriers, we can maintain a continuous presence of one carrier battle group in the Mediterranean, one in the Western Pacific and have the capability to maintain a continuous presence in the Indian Ocean, while still retaining the capability to respond to a crisis. This force level of 14 takes into account training and readiness requirements, transit times, maintenance requirements, and the need to maintain a quality of life (OPTEMPO/PERSTEMPO) for our personnel.

A carrier force level of 12 would limit our presence in the Indian Ocean for six months out of the year. Commitments in the Mediterranean and Western Pacific would not be affected. Should a crisis develop, we would have less flexibility in responding and would have to gap other commitments. Depending on the threat and duration of the crisis, we would have fewer carriers for a carrier battle force (two or more carriers) to engage in sea control or power projection. A force of less than 12 aircraft carrier battle groups lacks the necessary depth to adequately provide surge capability for sustained high-tempo crisis response.

To respond to a sustained crisis in the Indian Ocean (requiring two aircraft carrier battlegroups) similar to that experienced in the 1980's, without breaking current OPTEMPO/PERSTEMPO guidelines, or gapping our presence in another theater, would require a force of twenty-one carriers.

Any further reduction in the number of aircraft carriers and withdrawal of forward deployed carrier battlegroups would reduce our ability to deter crisis situations from developing, and could increase the likelihood of combat. With fewer carriers, our forces are more likely to be out of position to respond in a timely manner during contingencies and to influence events ashore.

Senator INOUYE. Will the Senator yield at that point?

Senator SPECTER. I do.

Senator INOUYE. Is it not correct that with the 14 carriers at the moment, 12 are deployable, 1 is for training, and 1 is usually in repair or overhaul?

Admiral NYQUIST. Yes, sir; it varies from year to year. Sometimes there will be a ship in SLEP, the Service Life Extension Program. And so you are always going along on a curve that centers around that number of ships.

Senator INOUYE. So if you have 12, you will have 10 deployable, roughly?

Admiral NYQUIST. It will usually be less than the total number of carriers you have in the force.

Senator INOUYE. That being the case, you would have to extend the sea duty time for officers and men?

Admiral NYQUIST. Given that we—as I mentioned to Senator Specter—maintaining the commitments we have now with 14 carrier battle groups, yes, we would have to put——

Senator INOUYE. And that would, I think immeasurably, affect the morale of our personnel?

Admiral NYQUIST. Yes, sir, it would, if we maintained those same commitments. And there is nobody in the Department of Defense, and certainly not the Department of the Navy, who wants to lay that on our people. And that is why we are working so very hard at doing that analysis and determining what the right force level should be.

Senator INOUYE. And you may have difficulty in recruiting personnel?

Admiral NYQUIST. If they look out there and see a navy in which people are spending more and more time at sea, although we all love to go to sea, there is certainly a point at which it becomes—you know you just cannot expect people to stay at sea that long.

But I do not think we are quite at that point yet, Mr. Chairman. But we have got a lot of hard thinking and hard analysis to do over the next several months as we prepare for the fiscal year 1992 budget.

Senator INOUYE. Well, I would like to see how you are going to operate with a 10-carrier task force.

Admiral NYQUIST. Well, sir, no one has mentioned that number.

Senator INOUYE. We may have to renege on our commitments, will we not?

Admiral NYQUIST. Yes, sir.

Senator INOUYE. Thank you.

Senator SPECTER. Thank you, Mr. Chairman.

I have some questions to submit for the record and other colleagues are waiting, but let me pursue one other question, which is at the other end of the spectrum on specificity, as opposed to the generalized commitment and the lapses, which I have already covered.

SERVICE LIFE EXTENSION PROGRAM [SLEP]

But let me approach it, in addition to the questions submitted for the record, in terms of the specific.

The USS *Kennedy* is a carrier which is the last and best nonnuclear carrier which has been built, and it is very similar to the newest nuclear carriers, except for its powerplant. A service life extension would extend the life of the *Kennedy* by 15 years or more at a cost of $850 million, contrasted to the cost of a new nuclear carrier, which is projected to exceed $4 billion.

On your current plans, at a minimum, are you able to provide assurances that the *Kennedy* will be renovated under the Service Life Extension Program?

Admiral **Nyquist**. Senator Specter, she shows up in the fiscal year 1993 column in the Service Life Extension Program. But I must say that everything in our budgets, including the SLEP, is going to be under review for this next coming fiscal year, and for the planning for the 6-year defense plan.

Senator **Specter**. Well, Secretary Cheney has said flatly that you cannot forego SLEP, service life extension with a 14-carrier navy. Does anybody disagree with that at this table?

May the record show nobody has answered.

Well, all right. These are questions which we need to pursue. And I am not unaware of the parochial import of some of my questions as a Pennsylvania Senator. But I have taken a very hard look at this matter from a national defense point of view, and nobody can present a strong case if there is not a strong case to be presented.

It seems to me that you men, who have a big responsibility regarding carriers, have emphatically stated the need for a minimum of 14 carriers. I hear the table has been pounded when you are in the meetings with the Secretary of Defense. We need to know the specifics so we can judge whether we are going to spend money on multiple strategic systems or other items, as opposed to this kind of a carrier force.

Thank you very much, gentlemen.

And thank you, Mr. Chairman.

Senator **Inouye**. May I follow that up.

Is it true that the Philadelphia Naval Shipyard is the only shipyard capable of doing SLEP work?

Admiral **Nyquist**. I would like Admiral Hekman to take that if I could, Mr. Chairman.

Admiral **Hekman**. No, sir; that is not true from the standpoint of shipyard capability. Norfolk Naval Shipyard could do that work, and at the expense of doing many of the jobs that they do now, particularly nuclear work.

Senator **Inouye**. Does it do SLEP work now?

Admiral **Hekman**. Pardon, sir?

Senator **Inouye**. Does it do SLEP work right now?

Admiral **Hekman**. No, sir; but it does do carrier overhauls. Puget Sound Naval Shipyard also does carrier overhauls. But the SLEP is a very, very in-depth overhaul, new engines, new boilers, new everything.

Senator **Inouye**. And the Philadelphia Yard has been doing this?

Admiral **Hekman**. The Philadelphia Yard has put that into series production mode, using the modern techniques that we have set into the yard. And they are the most prepared and the most economical for that work.

Senator **Inouye**. So if we close that shipyard, as suggested by the administration, by necessity we would have to upgrade, at additional cost, some other shipyard, is that correct?

Admiral **Hekman**. We would have to look at what work would be required to continue the operation of those ships, depending on what their material condition is and how long we intend to operate them, and then look where we could do that work.

Senator **Inouye**. And it is your contention that the Philadelphia Shipyard operation on SLEP is an economical one?

Admiral **Hekman**. Yes, sir; there is one other factor, sir, and that is that that type of work can be done in the commercial sector in Newport News, although no other shipyard in recent years has taken on carrier work of that scope.

Senator **Specter**. I just needed to be sure I understood you, Admiral Hekman. Your words were that "the Philadelphia Shipyard was the best prepared and the most economical?"

Admiral **Hekman**. Yes, sir.

Senator **Specter**. Thank you.

Senator **Inouye**. Senator Stevens.

ICEBREAKER FUNDS

Senator **Stevens**. The Office of Management and Budget has withdrawn its objection, as I understand it, to the icebreaker that we required to be constructed for use by the Coast Guard. Have those funds been released to you now?

Mr. **Cann**. I believe they are still in the OSD Comptroller's shop, but I can tell you where we are at this point with respect to the icebreaker program.

Senator **Stevens**. Please.

Mr. **Cann**. In January of this year, the former Assistant Secretary of the Navy for Shipbuilding Logistics directed the Naval Sea Systems Command to develop a memorandum of agreement and budget quality estimates with the Coast Guard to get going with the program. A meeting was held in that month and the MOA was developed and signed by NAVSEA on April 5 and by the Coast Guard on April 10. An RFP was prepared and released to industry for comments on April 11.

The budget quality estimates are being developed. The refinements will be required based on an in-depth review of the technical specifications. A waiver request to staff the program office was submitted to the Navy Comptroller [NAVCOMPT]. We have got that going.

On April 12 there was a problem with the hiring freeze and DepSecDef's lifting of the hiring freeze enabled the Naval Sea Systems Command through internal reassignments to fill positions for the program office. That was a slight stumbling block the way the hiring freeze was worded, and on April 10 the Coast Guard forwarded $500,000 of acquisition construction improvement funds to NAVSEA to initiate review of the technical package. We are proceeding to execute the program and I do not see any reason why we cannot award the contract during the third quarter of fiscal year 1991. The award date is keyed to immediate release of the SCN funds. We are about to take action to go and get those funds released. So we are moving ahead——

Senator STEVENS. What would the completion date be if you are able to keep that 1991 schedule?

Admiral HEKMAN. Sir, that will depend upon the response to the contracts, but we would estimate in the late 1994, early 1995 timeframe.

DDG-51

Senator STEVENS. Are you still going to continue your buy of the frigates?

Mr. CANN. You mean the FFG-7's?

Senator STEVENS. The DDG-51's.

Mr. CANN. Absolutely.

Senator STEVENS. How many of those are we going to get?

Mr. CANN. I believe that just before you came in, I pointed out to the chairman that the Secretary of Defense has initiated a major warship study and one of the components of that is a whole review of the DDG-51 program. I think there is no question that the view of the Navy is that the DDG-51 is the major combatant in the future.

It has all the characteristics to take on the sorts of threats that we are concerned about. It is a modern design and has all of the attributes necessary to make it maintainable and seaworthy going into the next century. Of course, for this year we are asking you for five ships in the 1991 budget, and we certainly intend to continue buying these ships for quite some time.

Senator STEVENS. Are the home ports selected for all of those?

Mr. CANN. I do not know the answer to that. Let me ask Admiral Nyquist.

Admiral NYQUIST. No, sir; but they will be essentially apportioned equally between the two fleets, but we wait probably around 2 years before the ship is completed before making the home port decision, although we do make the allocation between the Pacific Fleet and the Atlantic Fleet.

Senator STEVENS. Thank you very much. Thank you, Mr. Chairman. I do have some questions I will put in the record, too. Just some detailed questions.

Senator INOUYE. Senator Rudman.

SEAWOLF

Senator RUDMAN. Thank you, Mr. Chairman.

Admiral Cooper and Secretary Cann, there has been some confusion in the last several days about whether or not the Navy, realizing the potential budgetary problems with the Seawolf program, might award a contract to investigate another possible submarine program that might be built within the cost range of the present 688 class.

A House hearing indicated that was so. It was confirmed by industry sources and Navy analysts, and Mr. Cann is quoted as saying that it may be for continuing design of Seawolf. Somebody else at the Navy, who is anonymous, says that it is an omnibus contract for engineering, design services and other submarine programs which he declines to identify. What is going on?

Mr. CANN. I was, of course, at the hearing you are talking about when the statement was put out on the table, and some of the people on the staffs of that committee obviously were way ahead of me, because the contract was just let a few days earlier.

The contract was for continuing engineering services to Newport News and it is a standard approach to year-by-year contracting, and it was for work primarily on—continuing work on the SSN-21. There was one statement in that contract that said something to the effect that if there are technologies that would be useful in later design efforts, please make sure you keep them segregated in such a fashion that we can use them—something along those lines.

There has been no contract let for a new design of a new submarine, and this work is clearly work that is ongoing to support the current program, and I think maybe Admiral Cooper might like to say something about this also, because he was there also.

Admiral COOPER. Yes; let me reiterate there is absolutely no contract for a follow-on submarine.

Second, the waters were muddied a few days after this hearing in the House when the CEO of Tenneco was asked this question as he was leaving a press conference or some kind of a meeting, and he indicated that there was some kind of a contract: this was then displayed in several publications as being a new contract.

The next day, Newport News and Tenneco came out with a very, very strong statement saying there was no such contract, and that this was an ongoing design contract for submarines they were already working on. There was no contract for an SSN-97, as had been stated, or an SSN by any other name, and those were the specific words they used.

Senator RUDMAN. Well, I just asked the question. Maybe it would be prudent if you did. I mean, I am not saying it was necessarily a bad idea.

One of the problems that we are facing is that Seawolf, like all submarines is very expensive. They are a very valuable asset and they are expensive. But this particular request of $3.6 billion for two of the SSN-21 class, seems to indicate that we would fund about 50 percent of the anticipated fleet and obligate that money before we really had a lot of operational testing done. I wonder how confident you are, Admiral Cooper, laying those kind of markers down in advance?

Obviously, there has got to be a—and some of this I am sure is classified—quantitative and a qualitative advantage, over the 688 in a whole variety of performance specs before it becomes sensible for us to create a whole new class. I mean, there have got to be some quantum leaps in the technology, it seems to me, knowing what the countermeasures are. I just want to know how you respond to that?

Mr. CANN. Let me just make a couple of comments. I have been in this business for a long time. I have been out of the Pentagon for a few years, but I was involved in the very beginning of the Seawolf program before I left, and I think that it is really important to recognize that the work that has gone on in the submarine development programs over the last 20 years has been very incremental. The Seawolf represents a major step forward primarily in propulsion and in weapons load-carrying capability. What you will find, if we could spend a time and could get into the right environment here from a classification point of view, is that we have a very carefully orchestrated program to test all of the major components in various forms before they come together in the ship.

Now, there is always some risk in any program when you bring everything together for the first time. Unfortunately, as we all know, we cannot build a ship until we construct it from its major parts. So we have to pull it all together. There is a very well-structured program not only for the ship but for the combat system which has been a cause celebre in some circles to make sure that they all come together, are tested and will work when they go together the first time, and I think the history of some of our nuclear submarine trials has been very interesting.

I was talking to Admiral DeMars the other day. He was talking about a ship. He just went on trials and first crack out of the bat they are down, submerged, and operating at speed, the first time they operated the submarine. Now that is a testimony to the carefulness with which we have put together the nuclear submarine program.

I tend to be very cautious because I have been in the development business for 37 years. I personally have relatively high expectations that when we put the Seawolf together as a total system the first time it is going to do very well. There are some obvious technical issues we could talk about in closed hearing, but I have confidence that they will be resolved.

Senator RUDMAN. What was the original plan for the number of this class submarine that you were going to request we fund?

Admiral COOPER. The original number that was used was a total of 29. That is a very general number. A year ago we authorized the last improved 688-class submarine and we just let the contract on that one. If I may expand a little bit——

Senator RUDMAN. That is about a $30 to $35 billion program over its life in 1990 dollars, I guess?

Admiral COOPER. Approximately, yes, sir. If I may expand a little bit upon what Mr. Cann said, we have completed several studies. Last year we were required by the appropriations bill to perform a study called the IOC plus-10-year analysis, in which we were to compare the SSN-21's performance against what the CIA and DIA thought the threat might be in 2005. We, in fact, did not complete the study. Somebody did it for OSD, and they found that the submarine that we will deliver in 1995 is in fact superior to the best threat that could be thought of in 2005.

Every operation in which we compare the SSN-21 against the threat, whether it is going against other submarines, delivering a strike missile, delivering special forces, or whatever, the SSN-21 has a greater capability than any other submarine in the world today. So in that respect, when we look at the characteristic of stealth, which is a primary characteristic of any submarine, the SSN-21 has the greatest stealth capability of any other submarine in the world.

Senator **Rudman**. What is its displacement compared to the 688?

Admiral **Cooper**. It displaces 9,071 tons, which is about 40 percent more than a 688. This is one of its major advantages, since with a larger displacement it can carry a much larger load of whatever you want to take, whether it is weapons or something else, within the torpedo room. It also gives us the greater propulsion capability, and it also gives us much more room to improve quieting, which is the primary thing that we need in any submarine.

Senator **Rudman**. I happen to think this is one of the most important decisions we are going to make. I am going to request informally after this hearing to you and the Navy have a closed hearing available for those members that wish to attend, particularly to get a comparison on present 688 operation, compared to SSN-21 operation.

And the Navy has been, of all of the services, the most accurate in its assessment of performance of its systems years after they were originally designed. I think the nuclear submarine program, of all of those programs, has been remarkable in terms of its achievements in that sense.

Nonetheless, if we are going to start down the road of whether it be 29, 20, or 18, or whatever a procurement, and if you are going to start building this class of submarines you are not going to have only 3 of them. So I think that if we are going to make this decision, then we ought to make it on a very informed basis.

The only informed basis on which this committee can make that decision, is a very good presentation of the present capabilities of the 688 and the predicted capabilities of the SSN-21. I have some background as to what you are talking about, but I would like to hear it in a different atmosphere than I have heard it up to now. I would like the other members to hear, and then we can decide what we are going to do.

Senator **Inouye**. If you will yield.

Senator **Rudman**. Yes.

Senator **Inouye**. I have just scheduled a briefing by the Director of Naval Intelligence on this subject this Thursday at 4:30.

Senator **Rudman**. Good.

Senator **Inouye**. I would like to have you join me.

Senator **Rudman**. I shall; and then after that we may want data that that particular person is unable to supply that would more aptly come from Admiral Cooper and Mr. Cann, and we might do that formally or informally.

SEALIFT

I only have one other brief question, and I will address it to—well, I expect it might be Admiral Nyquist or someone else at the table. We have got a whole new approach to conventional forces that is now on the drawing boards. We are talking about forces that are lighter, more mobile, and, hopefully, more deployable. We are obviously going from our heavy force structure that we thought about with NATO and all the kind of sealift that required, to wholly different kinds of forces. That is what the Army is talking about in their hearings, that is what we are talking about. Obviously you will need a different kind of a force.

My question to the Navy is, What are you doing and what consideration are you giving to the kinds of multiple contingency operation requirements for different kinds of sealift, both tactical and strategic, in the class of LHA's and so forth? I mean we are talking carriers, submarines, and so forth, but the Navy sometimes has to get people somewhere, and quite often, as history will tell us.

What are you doing to solve this problem? The Army has got a whole new strategy that it is coming up with. Is there a systems approach? Are you folks going to be able to get them there?

I think the Air Force is going to have its C-17 fleet reduced and there are certain things you could not do with those aircraft anyway. In the final analysis, it is the Navy that has to deliver large forces to particular places. So what are you doing about that?

Mr. CANN. First of all, I might tell you just sort of as an aside here, I have been back 2 months, and I think there is only one subject in the Navy, and that is shipbuilding. And it seems to be that way.

Part of that discussion has been this whole question of sealift, because the question has come up every place I have gone. Obviously the sealift issue is a big issue. Not only is it a big issue in terms of the capability of us to project our military power, but it is also a big issue with respect to our shipbuilders and to our maritime industry.

I took a look at the facts of the matter. Over the last 8 years we have spent about $7 billion in the whole sealift issue. And if you go back to the scenarios that were used to generate the sealift requirements, which were about in the 1988 timeframe, it turns out that at the present time our sealift capability represents about 85 percent of that set of scenarios.

Now the only thing we are missing was about 15 percent of the roll-on/roll-off [RO/RO] capability. So when people ask the question, the difficulty with giving you what I consider to be the kind of answer I would like to give you is that we have a lot of sealift capability. We have approximately 167 sealift ships under Government ownership and control presently, plus we have got whatever the maritime industry has available.

I am certainly not insensitive to the issue of our ability to build ships. I think what is going to come out of this summer review that the Secretary of Defense, and frankly I think that which the Congress also gets involved in, is going to be a series of decisions that will size our sealift requirements. And I think that by next year at this time, if there are new sealift requirements, they will be well understood on our part.

Of course I would have to point out, and I am not a prognosticator of what is going to happen, not in this environment, but I would say that if everybody is coming down in size and we had sufficient sealift in 1988 based on the 1988 scenarios, it may turn out that we have enough sealift.

Senator **RUDMAN**. Of course, that depends on the kind of sealift you are talking about. I am very familiar with our sealift program and what we have done. And I think you have answered the question well. I think the one part of my question that you have not answered, and you may not be able to at this point, is what I would call tactical sealift. You are talking about the kind of sealift that has heavy facilities to go into, and so forth.

Mr. **CANN**. Right.

Senator **RUDMAN**. What about the kind of sealift you need for projecting troops into areas that you cannot move those heavy ships into? And I know the Marines have their groups, but we could, under certain scenarios, need that kind of lift for the Army as well, as we did many years ago. It is those kinds of tactical ships that I am talking about that tend to be a lot less expensive.

And yet, in this budget crunch, you know it is more glamorous to build carriers and submarines—not that we do not need them, we do—but I am talking about tactical sealift, which, in certain places of the world, if you do not have it, then you are not going to get there.

Mr. **CANN**. Admiral Nyquist may have some views on that; I frankly do not.

Senator **RUDMAN**. That is my last question; if you could answer that.

Admiral **NYQUIST**. Well, Senator, if you are talking about lifting marines, I do not think anybody does it better than the Navy. And I think you would agree with that. We have got major shipbuilding programs underway, the LHD-1, the first ship of which we delivered last summer; the LSD-41, both in its cargo variant and troop-carrying mode.

We are planning on a ship to replace the LPD after the turn of the century, which will give us capability for both deck spots and carrying Marines and carrying vehicles, which are very important. The landing craft air cushion program gives us an over-the-horizon assault capability.

So, from that standpoint, as far as lifting Marines is concerned, we are in I think excellent shape.

Tactical sealift for other than the Marines is a whole different issue, and one that—you have raised that for the first time. And we have not been without precedent that we have lifted Army troops in Navy amphibious ships.

Senator **RUDMAN**. Well, I would tell you historically, Admiral, you lifted a lot more Army during the history of the war than you ever lifted Marines, with all due respect to Marines.

Admiral **NYQUIST**. Yes, sir; but we are sized to the Marines in our amphibious area.

Senator **RUDMAN**. Well, that is exactly my point, and I am not surprised to get that answer. I would hope that for the record, at some point—not even for the record, I would like you to get back to me some time, if the Army is talking about what they are talking about, and they are not talking about going to more airborne divisions, then at some point somebody is going to have to get these light, mobile, deployable forces somewhere other than by air.

And there are plenty of places in the world that I know the scenarios for that you need more tactical sealift than the Marines have. Not that the Marines are not good, they are very good, but there is a limit on how many of these Marine forces we have.

My question is, Do you have any sealift for what I call rapid deployable tactical sealift for forces other than the Marines? The answer is clearly "No." The answer is you do not have any plans for it. Maybe we cannot afford it, but somebody sure ought to take a look at it. The Army has a new strategy that they are developing. If you look at what the Army's plans are for the new divisions, then you come over here and you say, "How are you going to get them there?" Some serious questions are raised. That is the reason I asked the question this morning.

Thank you.

Senator **Inouye**. Thank you very much.

Before I call upon Senator Bumpers, I would like to announce that notices have been sent to members for a 4:30 meeting tomorrow in the secure room of the Dirksen Building. At that time we will hear from the Navy intelligence personnel to brief us on the matters that have been discussed this morning.

So I would urge that all members that have the time join us. We will be discussing Soviet sea power, its capability, and its future.

Senator Bumpers.

Senator **Bumpers**. Thank you, Mr. Chairman. And thank you for holding that hearing on naval intelligence. I do not have any quarrel with naval intelligence, but I am beginning to question some of our other intelligence, which has been telling us for the 15 years I have been in the Senate that the Soviet GNP was 50 percent of ours, and now we have found that it is like 20 percent or less of our GNP.

We have consistently spent 6 to 7 percent of our GNP on defense, and we have always assumed the Soviets were spending about 15 percent of theirs. But since their GNP was only half of ours, we were about equal in the commitment, so far as the number of rubles and dollars being spent.

And as I say, now, according to the New York Times, as I read it Sunday, Soviet GNP was actually less than $1 trillion, as against our $5 trillion. Gentlemen, that does not cost you a thing and has nothing to do with this hearing.

BATTLESHIPS

Let me start by getting into the question of battleships. Admiral Trost told us that the retirement of two battleships would save $75 million in 1991, and in the 1992–94 timeframe would save $534 million. Now my question is, Why are we not retiring all four of those battleships, considering the effectiveness of them, and they have a 15-year life expectancy?

And, of course, I am one of the people who squealed like a pig under a gate every step of the way trying to keep those things from being rebuilt anyway. But why do not we just go ahead and save $1.06 billion and retire all four of them, Mr. Cann?

Mr. **Cann**. First of all, what I would like to point out to you is that what I have tried to do in my new role as the Navy acquisition executive is to maintain my posture as the one who executes the programs. And that question is clearly a requirements question, and I have brought Admiral Nyquist over to discuss that issue.

Senator **Bumpers**. Go ahead, Admiral.

Admiral **Nyquist**. Senator, I am glad you asked. And I know you will recall that Admiral Trost, in his testimony before you in April said, I did not want to retire the first two that we were directed to.

The battleship, yes, is a man-intensive ship. I think he told you that the all-inclusive annual cost of operating that ship, maintenance, fuel, people, is about $53 million a year.

But the ship was brought back because it was a ship that has tremendous combat capability. It has tremendous presence. And it is the least vulnerable of all our ships. It has still got the armor plate that was hung on them when those ships were constructed in the early 1940's.

So it is a ship that not only can form the nucleus of a surface action group, a battleship battle group if you will, and take on those encounters where you have perhaps less of an air threat than you otherwise would in Third World situations. And it is also an ideal regional conflict, Third World kind of ship.

So we reluctantly, because we were told to and it was an affordability issue, are proceeding to retire the *Iowa* and the *New Jersey*. But I am here to say that we need to hang on to those two battleships. They are very, very capable ships. They can go in harms way. They can take hits and give them back. They have been completely modernized thanks to your support at a reasonable cost.

Senator **Bumpers**. Not mine, Admiral.

Admiral **Nyquist**. Yes, sir.

Senator **Bumpers**. Admiral, are you saying that you do not think we ought to retire even the first two?

Admiral **Nyquist**. Senator, we certainly know how to take orders, and it was an affordability issue. So, yes, we did not bring the four battleships back to go ahead and put two of them away. But the dollars were not there. But I think we need to hang on to what we have. Those are very, very capable ships.

Senator **Bumpers**. Can we use a battleship battle group in the Indian Ocean, rather than a carrier? Would it be just as effective?

Admiral **Nyquist**. If you want to compare it precisely to a carrier battle group, and if you put the air wing into the equation, no, it is not as capable, because you have got tremendous capability in a carrier battle group. But we have used the battleship battle group in the Indian Ocean, and have used it successfully, for instance, when the *Iowa* was in the Indian Ocean a couple of years ago.

Senator **Bumpers**. Admiral, what is the most effective part of a battleship? What do you like best about them?

Admiral **Nyquist**. There are two things that we cannot replace, that is the 16-inch gun and the armor plating. And those two, while they have been around since battleships were battleships throughout history, those two capabilities are irreplaceable. Sixteen-inch guns are highly accurate.

Senator **Bumpers**. Well, they have been improved since we used them in Lebanon, then, have they not?

Admiral **Nyquist**. Well, I would be happy to provide you what we provided for the record in those years. Given that we did not have any air spotters, we created in a football field size, a place that you and I would not want to go, and that is pretty accurate for what we were trying to do at the time.

But the 16-inch gun is as accurate today as it was in 1943 when it was firing, and also when it was firing in 1953 in Korea. The battleship 16-inch gun is the most highly accurate major caliber gun in the world.

Senator **Bumpers** Would it be feasible, plausible, or desirable to put an MLRS, just bolt an MLRS on one of those ships?

Admiral **Nyquist**. Yes, sir; you could do that. But it would be very expensive.

Senator **Bumpers**. I mean it has at least an 18-mile range also.

Admiral **Nyquist**. Yes, sir; that is almost as good as a 16-inch gun. But I am not sure that that would give you any more capability than you would have with what you already have. And, of course, you would have to take something off to clear enough deck space for the MLRS.

Senator **Bumpers**. Do we have cruise missiles on those battleships?

Admiral **Nyquist**. Yes, sir; we do. We have the Tomahawk missile.

Senator **Bumpers**. On all four of them?

Admiral **Nyquist**. Yes, sir.

TRIDENT PROGRAM

Senator **Bumpers**. Admiral Cooper, do you know whether or not the Soviets have finally agreed to allow us to count three guided missile submarines as being in drydock?

Admiral **Cooper**. My impression is that is still under discussion. They have seemed to say yes, but will continue to negotiate it.

Senator **Bumpers**. Now you saw the same stories over the weekend that I saw about the possibility of limiting the Trident program to 18 boats, did you not?

Admiral **Cooper**. Yes, sir.

Senator **Bumpers**. Now, first of all, Admiral, I am on your team on the Trident. I think the Trident is really a magnificent submarine and I have been all for it and very supportive of it. To show you how bright I am, I also supported the B–2 bomber.

But I do believe strongly in the Trident. I think it is a proven system. I think it has proved itself. But what I have been concerned about, of course, is getting something consistent about how many Tridents we are going to build and make it consistent with what we are talking about in Geneva on the number of warheads each side is going to be permitted to have.

As you know, we have consistently had about 70 percent of our warheads on our submarines.

Admiral **Cooper**. Yes, sir.

Senator **Bumpers**. Now we have tentatively agreed with the Soviets to limit ballistic missile warheads to 4,900.

Admiral **Cooper**. Yes, sir.

Senator **Bumpers**. For example, if we were to build—and these are just things to throw out for you, and I am really making more of a statement than I am asking a question, and I think you are probably as aware of this as I am, but for the record, Mr. Chairman, if we build 21 Trident submarines and the Soviets agree that 3 of those will not count because we will consider at least 3 as having been in drydock at any given time, that means we would have 18 operative, and that means we would have 3,456 warheads on those 18.

Admiral **Cooper**. Yes, sir.

Senator **Bumpers**. And under the tentative agreement with the Soviets, we would then have room for 1,444 ballistic warheads for the MX, the Minuteman III, and so on. Now I assume that that is discussed on a regular basis in your office, is it not?

Admiral **Cooper**. Well, it certainly is in mine, but we look at it from a biased side. I would prefer to say that they discuss it down in JCS on a frequent basis, looking at all aspects of it.

Senator **Bumpers**. You give me a chance to put those warheads on Trident or putting them on the MX rail mobile, I will give them to you and the Trident every time. So I am not all bent out of shape about this.

Admiral **Cooper**. I understand.

Senator **Bumpers**. I am just trying to get the numbers down so that we do not wind up decommissioning Trident submarines that are 15 years old.

Admiral **Cooper**. That is right. And your numbers are correct. And we look at that, and of course the major statement has been made that we will never get in the position where we would have to decommission one. The correct number is 3,406, because it is 8 RV's per missile. That is 192 per submarine, times 18 submarines.

Senator **Bumpers**. Now having said that, Admiral, let me also say that I am a firm believer in arms control. And I firmly believed when they started on the START talks that both sides were actually going to cut to 6,000 warheads, period. As you know now, for a whole host of reasons, that is down in the toilet. That is no longer a possibility.

But as I was about to say, I have no quarrel with building Trident submarines as long as we know what we are doing. By the same token, I do not want to be building 24 or 27 Trident submarines and having the existence of those submarines drive the arms talks either.

Admiral **Cooper**. Absolutely; and we certainly agree, sir.

May I make one statement in accordance with the line you are going in. The decision of what the triad would consist of is, of course, way above the Navy; it is in OSD. And they would have to decide what the major factors are in the triad.

The major statement I would like to make is we have made a major change over the last 10 years in the sea-based leg of the triad. It used to be said that there were two major difficulties with the sea-based leg. One was communications and the second was accuracy. With the D–5 missile we now have the accuracy necessary to take care of the entire range of targets. In addition, we study, test, and do everything we can with communications. Over the last 10 years we have had the APL at Johns Hopkins look at all the communications that we send to our submarines and the various ways we do it on a daily basis. We have found we are good to [deleted] of all the communications we send because we have great redundancy.

So my major point is the two major detrimental factors, as seen 10 or 15 years ago with the SLBM leg of the triad, were communications and accuracy. Those are no longer detriments to it. Therefore, whoever makes the decision as to what the triad should consist of, should take this into account.

Senator **Bumpers**. Admiral, just as a little vignette, one time President Reagan invited the Appropriations Committee over to the White House to lobby us for the MX, which I had been very strongly opposed to. And during the course of the conversation Secretary Weinberger made his presentation about why we needed the MX.

And in the course of that conversation I asked the Secretary and the President why do you want the MX when we have the D-5 coming on. It is going to have the same kinds of kill capability that the MX has; it is much more invulnerable, and you are proposing to build 50 MX's and put them in the most vulnerable deployment mode known.

Now that does not cost you anything either. But you know how we politicians love to say I told you so. Because I was also a strong proponent of the D-5 and thought that it had tremendous capability, which indeed it does.

"NIMITZ"-CLASS CARRIERS

Now just a couple of closing questions on the carrier. And I direct this to whoever cares to answer it. If the carrier's primary mission in the future is going to be the Third World threat, can you think of a design of a carrier that would be more effective and more cost effective and perhaps could do the job just as well than the *Nimitz*? Do we just have to keep building *Nimitz*-class carriers?

If the Third World threat is as serious as I am hearing, does it take a 90,000-ton aircraft carrier to do the job?

Admiral Nyquist.

Admiral **Nyquist**. Senator Bumpers, our issue in the Navy is that you have to build a carrier to take on all contingencies. And we cannot ignore the capability of the Soviet Union, the one country in the world with the capability to eliminate us from the face of the Earth.

So the big-deck carrier has the size to operate the mix of aircraft required for First and Third World. And something that sometimes gets lost in the debate is that it has got more survivability in that ship than any carrier that we have ever built. It is a very, very capable and survivable ship. So we would say we ought to continue with what we have. And the price is right and the capability is what we need to cover the entire spectrum of conflict, from general war to contingencies.

STEALTH TECHNOLOGY

Senator **Bumpers**. Well, let me ask you a followup question. These carrier battle groups, as well as the battleship battle groups, are dependent for their survivable on various kinds of radar that we use to protect those ships. Now if the Soviets develop Stealth technology, where does that leave us?

Admiral NYQUIST. Thanks for asking that, Senator.

Senator BUMPERS. I am really doing you a lot of favors this morning, am I not?

Admiral NYQUIST. Yes, sir.

Because I think it leaves us in pretty good shape, and that is why we developed and have fielded the Aegis radar. That is the radar that will give us the requisite capability against that kind of threat.

Senator BUMPERS. What kind of radar?

Admiral NYQUIST. The Aegis radar that we have in our cruisers and that we are putting in our *Arleigh Burke* destroyers.

Mr. CANN. I would also point out that the fact that you have got a carrier and you have got the ability to put the airborne surveillance capability above the carrier and out in front of it, which is the E–2 radar aircraft. Even though it has reduced capability against the lower cross-section threat, it is out there and gives you early warning. And you have got other aircraft, such as the F–14's, that have radars and improvements in those radars which is going to improve the issue.

We would have to talk about some of the details of this in a closed hearing. But, however, the real point is that the importance of protecting these assets is to get good early warning. And one of the features of our carrier battle groups is we do provide indigenous early warning by having aircraft on station, out in front of the battle group to pick up the fact that other people are incoming. It is an important point. It really is a very important point.

Senator BUMPERS. I think that is an important, and I understand precisely what you are saying, Mr. Cann. But the question I want to direct to you and to Admiral Nyquist is, if it is true that the Aegis radar is capable of picking up Stealth technology, do we have any reason to believe that the Soviets cannot emulate that? And yet we are putting a lot of money into Stealth technology, both in fighters, bombers, cruise missiles.

Mr. CANN. Well, this is a very complicated issue. I do not want to appear to duck the issue. They can clearly do all sorts of things. One of the issues that you get into in this whole process of force/counterforce is the question of at what cost is it to the other guy to make him try to defend against the kind of capability you have.

Now we are primarily in the business of deterrence, and also to be able to work the Nation's will if we have to. As far as our Stealth activities, if we go to war again, we are going to war as we are. In other words, whatever we have as an available force level, that is it. And the issue, if we have to fly aircraft across a beach and what have you, is that those aircraft have got to be survivable enough to make the number of requisite sorties and so forth.

It is clear to those of us who are in the business that Stealth technology gives us a margin that we would like to have. Now that is not to say that there are not counter-Stealth issues to be looked at, but I would rather start from the base of having the Stealth technology to start with and worry about counter-Stealth issues as they come along.

It is a very complicated issue, and I would be happy to talk to you in a different forum on that subject.

Senator **Bumpers**. Let me say, Mr. Cann, your point is a legitimate one; and I understand it. I especially understand it if we had all the money in the world.

Mr. **Cann**. I understand that, too.

Senator **Bumpers**. And that is one of the problems we have to labor with on this side of the table, and that is trying to get the biggest bang for the buck out of this.

Mr. **Cann**. I understand that. To be perfectly frank, I think what we have to decide is we are a maritime nation. I do not think there is any question about it. And I think what we have to do—whatever the size of the budget is—that it is our responsibility to make sure that the forces that we do deploy have absolutely got the capability to, one, project the kind of power necessary, and also that we can protect the assets we have.

Because, if we are really going to draw down on assets in some form or another, then those assets have got to be survivable. They have got to be survivable against a first shot. They have got to be survivable against a continuous attack. I have relatively great confidence in once the engagement gets going that our forces can survive. I worry a lot about the first shot, and that is an issue that we are working very hard on.

START TREATY

Senator **Bumpers**. Admiral Cooper, before I conclude, let me also say that there is a possibility that we are going to talk about a START II treaty the minute the START I treaty is ratified, and we are probably looking at 3,000 to 4,000 RV's in that treaty, so there again, that is another thing we need to be looking at as we go forward with the Trident program.

Let me make one concluding remark. As we all know, Marshal Akhromeyev has been in this country and some of us spent some time with him privately, but we did not hear anything much that he did not say before the Armed Services Committee and the Senate, and he seems obsessed with the fact that the United States has refused to enter into naval negotiations. We have chemical weapons talks, we have CFE talks, we have space base talks, we have START talks on strategic weapons, but nothing on naval forces. Now, he is not a navy man, but for some reason or another he is obsessed with that, and says that it is poison in the well on all the other talks, because the Navy refuses, and I think no less an authority in the Senate than Senator Nunn, has suggested the Navy has been stonewalling on some of these things.

But I just wanted to make the point that I think that is one of the things that Gorbachev is going to want to talk about with President Bush here, and that is, you know, why do you persist in poisoning the well when you talk about everything under the Sun except naval forces?

I understand our position and I know our arguments, but I am saying that I think you are going to have to come to grips with that.

Thank you very much, Mr. Chairman.

Senator **Inouye**. Thank you. Senator Harkin?

Senator **Harkin**. Thank you, Mr. Chairman.

SATELLITE COMMUNICATIONS

Mr. Cann, I want to follow up on what you talked about earlier about the need for early warning of attack in the fleet. I suppose I will direct this question to you, or to Vice Admiral Nyquist.

Can you just tell me how much the Navy relies on satellites for communications, navigations, and for early warning of attack? Little reliance, moderate, great reliance? Can you quantify it?

Admiral **Nyquist**. Senator, I would probably have to give you the full answer. I think we would need probably to go into closed session or provide you a separate briefing, but just in an open session like this, I think the Navy always seeks a balance. That is, we do not want to put all our eggs in one basket, either in satellites or any other system which we might lose, so we always have an alternative.

We certainly have entered the world of satellite communications. It is the Air Force that runs them and everybody else is making them less and less vulnerable, but we are also able to continue long-haul communications using our ship-to-ship and ship-to-shore capability.

Early warning, certainly we use overhead, but we also build into the organic capability of our battle groups the capability, and a good one, to provide our own early warning in case we lose it, or it is otherwise directed toward some other need. But we would be glad to provide you a separate briefing, Senator.

Senator **Harkin**. Do you have something else to say?

Mr. **Cann**. I would only point out that we have become increasingly dependent on satellite communications and certainly increasingly dependent on satellite navigation over time. But I would also point out that I think that there is great care being taken to make sure that we have a lot of indigenous early warning. I think it is very important. We would be foolhardy to believe that we could do all of our early warning by satellite.

Senator **Harkin**. Is our dependence growing or staying the same on satellites? Are we using satellites more for these various things, or less?

Mr. **Cann**. My view is that it is about the same, in a sense.

Senator **Harkin**. You say it is growing for communications and navigation?

Mr. **Cann**. Definitely.

Senator **Harkin**. But early warning is staying about the same?

Mr. **Cann**. We would really have to get into closed session to discuss that issue.

ASAT WEAPONS SYSTEM

Senator **Harkin**. If the United States were to build an ASAT weapons system, would you expect the Soviets to develop and deploy a more effective ASAT weapon than what they have got, or do you think they would just sit there and not do anything? Do you have any thoughts on that?

Mr. CANN. To be very candid with you, I just do not know the answer to that. I have no idea. I think when you have that briefing tomorrow, the one that Senator Inouye indicated you are going to have with the naval intelligence people, that would be a fair question to ask them. I just do not have that kind of information.

Senator HARKIN. Well, I ask this looking back at history. If we build an ASAT weapons system, what will the Soviets do? Will they just sit there and not build one themselves, or will they improve on what they have right now—their co-orbital system.

What would be the best situation for our fleet in future wartime scenarios? Will we have satellites that are secure, that we can depend on for early warning communications, navigation, knowing full well they have the same system. They rely on satellites also.

Is it more stabilizing to have that system of satellites, or is it more stabilizing for both sides to have ASAT systems to fire and blind the other person, to blind the other side early on in any kind of battle situation? I have asked that question before of other witnesses—I think JCS when they were here, and others—and I wanted to get your thoughts on that.

Mr. CANN. First of all, it is such a complicated question. I certainly do not pretend to be the world's leading authority on that matter, but the main point that we try to make is that we cannot prognosticate what the Soviets are going to do with respect to their ASAT capability. The importance of our navigation and communications satellites has put us in a posture such that we are trying to get redundancy.

Senator HARKIN. But if the Soviets were willing to enter into agreements to not test dedicated ASAT weapons system which they have not since 1982, would we be better off in that type of a scenario, or would we be better off saying, to heck with that, we are going to build an ASAT system.

What I get from different areas of the Navy is that some people are saying they want an ASAT system, but then I talk to other elements of the Navy and they say that they are more dependent on the satellites than the Soviets are, and so I am wondering which is the best scenario.

Are we better off with the satellites, which would be more stabilizing, or an ASAT system on both sides that would blind the other side in any kind of a battle situation?

Mr. CANN. Senator, with respect to the ASAT issue, I have to be very frank. I am not competent to discuss it. I just do not know that much about it.

Senator HARKIN. I appreciate that. Maybe I will bring it up tomorrow.

Mr. Chairman, I think the other questions I have would be better asked tomorrow. Thank you, Mr. Chairman.

Senator INOUYE. If my recollection is correct, the Soviets at this moment have an operational ASAT of limited capability. We do not have an operational ASAT.

Senator Cochran.

Senator COCHRAN. Mr. Chairman, thank you very much.

Mr. Secretary, welcome to the committee. We are told you have an interesting challenge, combining research and development with acquisition responsibilities for the Department of the Navy.

Some might think that may amount to an impossible task. I hope you have not found it to be that way.

Mr. CANN. No, sir; I have not found it to be impossible.

Senator COCHRAN. Complex, I am sure.

Mr. CANN. Certainly complex.

LARGE LOT PROCUREMENT

Senator COCHRAN. In the statement that you submitted to us you indicated there is a review underway of the SSN–21 and the DDG–51 programs, and that this review may be completed next month. Do you expect there will be any changes that would affect the fiscal year 1991 budget cycle such as we saw with the changes in the aircraft program?

Mr. CANN. No; I really do not. I do not see any changes to 1991 at all. I think the issue at hand is really going to be more one of where are we going in the future with respect to the size of the force and the characteristics of the force, and I think great care is being taken in review to make sure that what I call the drivers that make the requirement valid are being looked at very carefully. I have personal confidence that when we are through with this, both the SSN–21 and the DDG–51 will be validated as the proper ships to be built.

Senator COCHRAN. One thing that was not included in the statement which was reassuring to me is the absence of the large lot procurement for the DDG–51 and SSN–21 programs. This is where the 2 years' worth of ships would be combined in alternating years. What is the status of that? Is that an alive or dead proposal?

Mr. CANN. That took place, of course, just before I came on board again, but I would say right now everything is under review. There is just no question about that. So the only thing I could state at this point is that you should not expect to see us do anything that does not make sense. That whole issue is under serious review, and will come out as a function of the warship study.

Senator COCHRAN. I was wondering, in your statement, you say the 2-year multiyear procurement plan for the DDG–51 ships which was requested by the Department of Navy was not executed. You address the lack of demonstrated savings for the fiscal year 1990 contract proposals. Did the Navy receive estimates for the 2 years? Was the large lot concept a different means of achieving traditional multiyear savings?

Mr. CANN. I would like to ask Admiral Hekman, who is the Commander of the Naval Sea Systems Command, to answer that question for you.

Admiral HEKMAN. I need to clarify the question. Are you asking, did I get bid responses on those, or are you asking did I go through the estimating process to see if there were savings on multiyear?

Senator COCHRAN. Did the Navy receive estimates for the 2 years?

Admiral HEKMAN. No, sir; the way those were funded, I was only allowed to go out in a single lot on the 1 year, and we are coming forward this year asking for the second half of that.

Senator COCHRAN. I wonder, Admiral Cooper, whether this SSN–21 submarine program, since you are the program sponsor, you would be willing to be the guinea pig for the large lot procurement. This would present a problem if, for example, you skipped a year of production with the impact that would necessarily mean on the producers and then have the program categorized as a new start.

Admiral **Cooper**. If this question is asking for volunteers, sir, I am not volunteering.

Senator **Cochran**. That is what it was, yes—to get your reaction.

Well, thank you very much. You have been very helpful.

Thank you, Mr. Chairman.

Senator **Inouye**. Thank you. Mr. Secretary and gentlemen, I have many questions I would like to submit to you, but before we adjourn today I have just one question.

SHIPYARD UPGRADE

Because of changes in management policies, competition from private shipyards and our effort to cut down overhead costs, we have experienced sizeable RIF's in our shipyards. Notwithstanding the fact that of the eight shipyards, six are represented by members of the Appropriations Committee, we have not objected to these cuts, but the Congress in the last fiscal year under the leadership of this subcommittee appropriated $81 million to upgrade our shipyards to provide our workers with the necessary tools to increase their productivity.

My question is, What happened to the $81 million?

Admiral **Hekman**. I just forwarded at the end of last week to the Pentagon my prioritized listing of my requirements and the way that I would like to invest that $81 million, sir, and that is an open letter, and I can get a copy of that to you if you would like to have that.

Senator **Inouye**. We would like to see that.

[The information follows:]

That list is under review within the Navy and will not be available until approved and released by the Office of the Secretary of Defense. This is scheduled for 30 June 1990.

Senator **Inouye**. So it is not going to be used to reprogram that for some other program?

Admiral **Hekman**. No, sir; that is being used to replace the asset capitalization funds that we normally use to upgrade our facilities and to replace wornout equipment.

Senator **Inouye**. I asked that reprogramming question because if my memory is correct, it is on the list for reprogramming.

Admiral **Hekman**. I cannot answer that, sir, but I am going to go look as soon as we I get back.

[The information follows:]

In response to your question asking if the $81 million is on the list for reprogramming, the Navy has no plans to reprogram these funds.

ADDITIONAL COMMITTEE QUESTIONS

Senator **Inouye**. Will you tell the Secretary that we are unhappy with that?

Gentlemen, I thank you very much. We will follow this up with a naval intelligence closed briefing tomorrow afternoon at 4:30 p.m.

The subcommittee obviously is facing a very difficult task of meeting budgetary targets. That being the case, we need your help to assess the situation and make correct decisions. That is the constant worry on our part, that as a result of the budgetary constraints we may make mistakes that may be extremely costly in the future, and we do not want to do that, so your help will be most essential as we move ahead in the days and months ahead.

[The following questions were not asked at the hearing but were submitted to the Department for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO SECRETARY CANN BY SENATOR INOUYE

AMPHIBIOUS SHIPS

Mr. Secretary, the fiscal year 1991 budget includes $959.8 million to procure one LHD amphibious assault ship. The cost is 30% more than the LHD purchased in 1989.

QUESTION: What is causing the 30% increase in the price of the LHD?

ANSWER: The FY 1991 LHD 5 is more expensive than the FY 1989 LHD 4 because: (1) the LHD 5 estimate includes the cost of the ship plus profit for the shipbuilder while the LHD 4 shipbuilder is offsetting costs above target price by absorbing a share of these costs from profit; (2) LHD 5 includes performance improvements such as an expanded collective protection system against nuclear, biological, and chemical weapons threats, and improved self defense missile systems; (3) two years of inflation between FY 1989 and FY 1991 with higher estimates of inflation during the period of construction for the FY 1991 ship.

QUESTION: Secretary Cann, we are all aware that the Defense Department is reviewing ways to reduce its funding requirements in future budgets. In this uncertainty, explain why it makes sense to pursue multi-year contracts for LHD ships and air cushioned landing craft.

ANSWER: Multi-year contracting is generally a less expensive way to procure amphibious ships and landing craft than separate annual procurements. To maintain flexibility, we will request proposals for both multi-year contracts and also annual contracts with options. We will then make awards that reflect the offers that are proposed and the budget circumstances that exist.

SHIPBUILDING COST OVERRUNS

QUESTION: Secretary Cann, what are the Navy's plans to meet its unfunded requirements -- are you going to break contracts to cover your cost overruns?

ANSWER: We are currently conducting the annual ship cost adjustment. In past years we have had sufficient assets in the shipbuilding program to cover the government's share of cost growth above target costs. This year we will identify assets that may exist in the shipbuilding program and in prior year appropriations to the Departments of the Navy and Defense. If funding requirements are found to exceed assets, we may seek Congressional approval to reduce new shipbuilding programs as funding offsets. We do not expect to terminate existing contracts to create assets or limit cost exposure.

GUIDED MISSILE DESTROYERS (DDG 51)

QUESTION: Mr. Secretary, considering the fiscal constraints and funding problems, along with the global changes during the past year, why should the Congress fund five DDG's?

ANSWER: The most economic production rate of ARLEIGH BURKE Class DDG 51 destroyers is five ships per year competitively awarded to two qualified shipyards. Reducing the annual buy to four results in the loss of a competitive acquisition strategy, increased unit costs, and the beginning of the erosion of the industrial base. Reducing the annual buy to three will result in the closure of one shipyard, damage to the vendor base, disruption and inefficiency in the AEGIS Weapon System production base, and erosion of the combat system engineering base. Recovery will be at best difficult, costly and time consuming.

With the retirement of the DDG 2 and DDG 37 class ships and our continuing commitments around the world, it is imperative to maintain a force structure which supports national objectives and the maritime strategy in the context of both a sustained Soviet Naval shipbuilding program and the increased lethality of weapons used by Third World nations in low intensity conflicts. While the Soviets are scrapping older, obsolescent ships at an unprecedented rate they continue to modernize their shipbuilding infrastructure and yards, giving themselves future flexibility to construct either merchant or naval ships as their national interests require. But even given the most optimistic assumptions of decreased risk from the Communist Bloc, the potential dangers in the rest of the world, particularly the Third World, are increasing.

QUESTION: Mr. Secretary, GAO recently reviewed the DDG program and recommended a slow-down in production unless assurance was provided that the acquisition strategy was not too risky. Are you familiar with this recommendation and can you give the subcommittee your views?

ANSWER: The GAO, in their January 1990 report on the DDG 51 Program, specifically recommended that "the Secretary of Defense assure that the DDG 51 lead ship schedule provide for completion of those tasks and tests necessary to support an informed full rate production decision prior to the scheduled award for additional follow-on ships." In the DDG 51 Program, the DOD has complied with the existing Federal statute regarding the adequacy and evaluation of the tests necessary to proceed beyond low-rate initial production, a decision made in October 1986. Fixing deficiencies discovered during testing will cost considerably less than the cost increase associated with delaying ships. Our experience with the four combat system baselines in the CG 47 Program demonstrates the Navy's ability to manage risks and implement necessary corrections within existing budgets and schedules without delaying procurements.

QUESTION: Since the DDG 51 program is underfunded, perhaps this would be an appropriate time to scale it back. Would you agree?

ANSWER: Secretary Cheney is currently conducting a Major Warship Review of the DDG 51 and SSN 21 Programs. It would be beneficial to await the results of the review before answering this question. However, I am confident the lead ship will complete under the original Navy estimate of $1,252B (FY 85$) and the average unit cost of ships 6-10 will be substantially less than our goal of $700M each in FY 83 dollars.

AIRCRAFT CARRIER SERVICE LIFE EXTENSION (CV-SLEP)

QUESTION: Since the Navy is planning to close Philadelphia, why are you requesting $113 million advance procurement funding for the carrier service life extension program on the USS KENNEDY (CV-67)?

ANSWER: On January 29, 1990, the Secretary of Defense directed that the Naval Station and Naval Shipyard in Philadelphia be examined for possible closure. As required by the National Environmental Policy Act, numerous studies and impact assessments are now underway, the results of which will, in part, form the basis for a final decision to close, or leave intact, the Philadelphia Naval complex. Regardless of the final decision, plans continue to upgrade and modernize USS JOHN F. KENNEDY (CV-67) during FY 1993, and the President's FY 1991 budget submission provides advance procurement funding of $113.1 million for USS JOHN F. KENNEDY (CV-67). This advance procurement is necessary for long lead items, such as, High Pressure Turbine Rotors and Casings, Navy Tactical Data System equipment, SPS-48E Radar System equipment, catapult equipment, detailed design, repair and alteration material, etc., that require between 44 and 55 months of production and pre-delivery time before the equipments are available at the ship.

QUESTION: Are you considering using another shipyard to perform the Service Life Extension on the KENNEDY?

ANSWER: The Navy is not currently considering using another shipyard to perform the Service Life Extension Program for USS JOHN F. KENNEDY (CV-67). Other available options will be examined and considered should a decision be made to close the Philadelphia Naval Shipyard prior to the estimated CV-67 SLEP completion of May 1995.

QUESTION: Mr. Secretary, is it fair to assume that if the Defense Department decides to reduce the number of aircraft carriers from 14 to 12, the CV-SLEP program would be terminated?

ANSWER: If the number of deployable aircraft carriers is reduced from 14 to 12, SLEP objectives will continue as required to maintain carrier force levels. At this time, USS KITTY HAWK (CV-63) is finishing SLEP AND USS CONSTELLATION (CV-64) is starting SLEP preparation at Philadelphia Naval Shipyard prior to SLEP in July 1990.

CARRIER FORCE STRUCTURE

QUESTION: What other options would be viable if the decision ~~is made~~ to reduce carrier force structure?

ANSWER: A reduction in the carrier force level may obviate the requirement for some of the remaining SLEPs. The functions of a shipyard are well defined with SLEP being only one function. Other options must be addressed within the total shipyard functional range and after the entire force level is resolved.

SSN 21 SEAWOLF ATTACK SUBMARINE

Secretary Cann, last year the Navy awarded a contract for the first SSN 21 submarine without sufficient ship construction funds appropriated for this program.

QUESTION: Can you explain to the Committee how the Navy planned to finance the construction of this submarine without additional funds?

ANSWER: Sufficient funds were available to fund the SSN 21 construction contract at the time it was awarded. Subsequent obligations were deferred leading to the $178 million shortfall which the Navy identified to Congress last August.

At that time, the Navy had a contingency plan to use prototype test units to support lead ship construction should Congress decide to cancel the SSN 21 program and order the Navy to finish the lead ship without additional funds.

Congress subsequently indicated its support of the program. It approved additional advance procurement funds for follow ships and requested the Navy to submit a formal reprogramming action.

To avoid costly delays to lead and follow ships, and in view of Congressional support for the program, the Navy has proceeded with the program within the constraints of available funding. Remaining obligational authority is critically low and scheduled efforts have already been postponed. Current projections show existing lead ship obligational authority will be exhausted as early as August 1990.

QUESTION: Secretary Cann, none of the four committees reviewing your reprogramming request has approved the proposal. What has been the impact on the program so far?

ANSWER: The Navy is at the point in the SEAWOLF program where immediate resolution of the reprogramming is required to stay on schedule and avoid increased risk. Specifically, failure to reprogram the entire $178M requested will require the Navy to default on Government Furnished Equipment and information needed to support the lead ship. Failure to deliver these items on schedule will result in delays and higher building costs that will be charged to the Government.

QUESTION: I understand the Navy believes the price of the future SSN 21's will be reduced to $1 billion through productivity improvements. Noting that the SEAWOLF was designed by computer and the construction techniques of the shipbuilders are already well refined, how likely is it that the $1 billion per sub goal will be reached?

ANSWER: The Defense Department is currently reviewing major warship requirements. If this review results in different quantities from those included in the President's FY 90/91 budget, then follow ship costs may need adjustment.

COASTAL MINEHUNTER (MHC)

QUESTION: Secretary Cann, we all support the Navy's plan to attain additional mine warfare ships, but with the delays and uncertainty in the MHC program is it prudent to finance three additional mine hunters in fiscal year 1991?

ANSWER: The MHC is introducing a new industrial base capability into the United States to build modern technology glass reinforced hull ships. A continuing procurement base represented by the three ships and modest funding requested in FY 1991 is essential to maintain progress in gaining this new modern national capability. There have been some delays in the first two ships at Intermarine, however I do not think there is any significant "uncertainty" in the program. The second yard has been selected and technology transfer to Avondale is ongoing. Up to three FY 91 ships are part of the current solicitation as options to the two FY 90 ships. Once an MHC construction facility is up and running as it is at Intermarine USA and will be at Avondale, it is not good from an industrial standpoint to have a gap in production. Both of these facilities are unique to the MHC program so there is no other work that will take the place of MHCs. I think it is prudent to proceed as requested with the three MHCs in FY 91. The low-cost MHC program is essential to our twin thrusts of achieving technological advancement and also rebuilding our mine warfare forces in the face of block obsolescence of the aging wood hull MSO type ships.

FAST SEALIFT

Secretary Cann, last year Congress provided $600 million to initiate procurement of fast sealift vessels in order that we might redress the current sealift shortfall and provide additional work for our ailing shipbuilding industry.

QUESTION: Considering that funds have already been appropriated for this purpose, do you support the goal of reducing the nation's sealift shortfall by designing and purchasing additional vessels?

ANSWER: Military requirements are changing in response to a changing world. The number, configuration, and peacetime uses of sealift ships depend on the amount of land, air, and sea forces, equipment, and logistics material available to be lifted. We expect Army and Air Forces to decline both overseas and in the United States with an overall net reduction of forces to be lifted. We currently have more than 100 dedicated military sealift ships in our inventory that resulted from earlier planning assumptions on global, protracted, conventional, superpower war scenarios. We may not now need to increase Government investment in sealift.

If new requirements or operational concepts emerge that indicate previous shortfalls in unit equipment lift capability are still valid, we could acquire additional sealift ships.

QUESTION: I understand Secretary Garrett has established an interagency group to review sealift requirements and determine characteristics for new fast sealift vessels. Are you familiar with this group and can you tell us what progress they have made in this area?

ANSWER: As reported by Secretary Garrett to Congress on 20 April 1990, the interagency group has determined that there is no requirement for additional sealift tankers or container ships. Work continues on unit equipment sealift requirements, and as yet, no new requirements have been established to meet the continually changing circumstances in the world situation and in our defense forces.

The interagency group has made progress in reviewing commercial ship concepts with the shipping industry to balance industry desired commercially viable operating characteristics with military utility. The ship concepts, developed by Maritime Administration participants in the interagency working group, include roll-on/roll-off, container, and break-bulk capability and ship speeds of about 21 knots. These ships, if built and placed in commercial service, would have military utility in wartime roles.

Also, a sub-committee of the interagency group is preparing a technology plan that would develop technology suited to the mission of naval auxiliary and amphibious ships as well as sealift ships. A key initial step in this plan is to evaluate performance parameters and determine those performance characteristics where technology can provide useful performance leverage. This initial step would establish a system engineering framework within which each aspect of strategic sealift and mobility can be assessed. If implemented, this technology development plan would pursue technologies that would improve future sealift forces in meeting any new requirements that may emerge.

PUBLIC/PRIVATE COMPETITION FOR DEPOT MAINTENANCE

Mr. Cann, your testimony submitted for the record includes a discussion of the competition between public and private shipyards for Navy non-nuclear availabilities and some aviation maintenance/repair. This committee has been a strong advocate of this program based on expected cost effectiveness.

QUESTION: Mr. Cann, has the Navy experience to date proven this concept to be effective in controlling costs?

ANSWER: We believe we have saved money on submarine work as a result of public/private competition; however, if the recent lack of private sector interest in nuclear submarine work continues, the future of this element of the program will be doubtful. It is more difficult to ascertain savings generated in the surface ship competition since many contracts remain to be finally settled. We are seeking ways to improve the public/private competition process, and we will continue to evaluate the trends.

QUESTION: Why is the Navy the only service which supports competition for depot maintenance workloads?
ANSWER: It is true that the Navy strongly supports competition for depot maintenance workloads; however, I cannot speak for the other two Services.

QUESTION: Is Navy depot maintenance inherently different than Army and Air Force depot maintenance?
ANSWER: To the best of my knowledge, the only significant difference is in the kinds of items being overhauled, which in turn requires different facilities and processes.

QUESTIONS SUBMITTED TO VICE ADMIRAL NYQUIST BY SENATOR INOUYE

BATTLE FORCE SURVIVABILITY

QUESTION: Admiral Nyquist, I understand the CNO's task force on developing a battle force management system found that the

[deleted]

How does this deficiency affect the Navy's ship-to-shore and battlegroup communications capabilities?

ANSWER: A radio and electronic battle management task force under the CNO Executive Panel examined the way the Navy addressed the entire field of Space and Electronic Combat (SEC).

[Deleted]

They also perceived a requirement for more centralized leadership in SEC and recommended the establishment of a 3 star advocate for SEC. Their recommendations were accepted and OP-094 has become the SEC advocate. This restructuring of the responsibility for SEC programs will establish better knowledge, better tactics and a more positive and comprehensive mind set towards SEC and its relationship to all other warfare areas and the command and control infrastructure.

Additionally, within the past year, we have significantly accelerated our communications systems modernization programs, restructured our major programs for the Navy command and control systems afloat and ashore to more rapidly field required improvements, and we are engaged in an extensive effort to define the minimum acceptable functions required in offensive and defensive electronic warfare to verify requirements for existing and planned EW programs.

QUESTION: Admiral, please provide us with your view of the future naval warfare environment.

ANSWER: While we need to continue to be ready to respond to global operations, I feel the future portends contingency and limited objective warfare focused to low intensity conflicts world-wide. We will need to be ready for multipolar and third world operations as well as counter terrorist and drug interdictions that will be multi-service operations. Specifically related to C3 and counter C3 will be the importance of space and electronic combat as systems will evolve to multi-spectral sensors integral to weapons, that is infra red and electro optic - expanded use of the frequency spectrum as well as anti-radiation sensors capable of distinguishing between friendly, neutral and enemy radars. Low observability will increase as well as advanced processing fusion and correlation systems that will be embedded to a given weapon system. Communications will be more robust and sophisticated in frequency spectrum, complex encryption techniques and use of anti jam and low probability of intercept communications as well as data compression techniques. At the same time, there will be more use of decoys and jamming In summation, the future of naval warfare will be more electronic in every phase of warfare from sensors, processors, communications and the weapons themselves.

QUESTION: Admiral, has the Navy come up with a cost estimate for upgrading its command, control, and communications capabilities? If not, when will this happen?

ANSWER: The programs, systems and capabilities that will be included in SEC are now being refined within Navy. Envisioned is the minimum system architecture properly scoped to provide a comprehensive near term system design to address C3, EW and counter C3 capabilities needed to support our operational forces in regional and low intensity conflicts as well as addressing global needs. Since we are still in the process of refining what will be included in SEC, it is not yet possible to provide a cost estimate.

AMPHIBIOUS SHIPS

QUESTION: Admiral Nyquist, in the constrained fiscal environment, are the plans to purchase 3 additional LHD's in addition to the requirement for LSD cargo variant ships and air cushioned landing craft achievable?

ANSWER: In order to meet our current amphibious lift requirements we need to continue on our planned amphibious ship procurement schedule. The Landing Craft Air Cushion (LCAC) are an integral part of this requirement (lift of men and equipment ashore) and support our over-the-horizon amphibious assault concept. However, these programs as well as all others will be reviewed in the context of significant fiscal constraints and the attendant force structure.

QUESTION: Admiral, has there been any reduction in the requirement for Marine amphibious ships due to the changes in the East Bloc?

ANSWER: No. The amphibious lift requirement is not dictated by the East Bloc threat, but rather by requirements for worldwide contingency response and U.S. presence.

Question: Admiral, how many air cushioned landing craft are required to lift the assault elements of two Marine Expeditionary Brigades?

Answer: 24 Landing Craft Air Cushioned (LCAC) are required to transport the Assault Echelon of a notional Marine Expeditionary Brigade (MEB) ashore for the beach portion of an amphibious assault. The total requirement for two notional MEBs would be 48 LCACs. This does not include the LCACs required for the training facilities.

Question: How many amphibious ships would be required to transport this force.

Answer: The amphibious shipping required to carry the Assault Echelon of a notional Marine Expeditionary Brigade (MEB) is based on the five elements of the fingerprint for the MEB. The five elements consist of: the quantity of troops, the amount of area required for vehicles, the amount of volume required for cargo, the flight deck areas required for helicopters and Vertical Take-Off and Land (VTOL) aircraft, and the number of welldeck spaces required for Landing Craft Air Cushioned (LCACs).

Each class of amphibious ship has different capabilities to fulfill each portion of this fingerprint. Using the current ships in inventory, it takes about twenty ships to lift a MEB. Thus, it would take about forty ships to lift two MEBs.

FAST SEALIFT

QUESTION: Admiral Nyquist, virtually all the CINCs have testified in favor of increasing sealift. Do you share their concern?

ANSWER: All significant sustained operations in forward theaters depend on sealift. In any future war, more than 95% of petroleum products and more than 90% of equipment and logistics material will be lifted to forward theaters in ships. Sealift is a very cost effective form of strategic mobility, and can be adapted to short warning times by concepts ranging from dedicated ready reserve forces through merchant marine ships in daily commercial service.

The number, configuration, and peacetime uses of sealift ships are very dependent on the amount of land, air, and sea services forces, equipment, and logistics material available to be lifted, and are also very dependent on the specific scenarios envisioned regarding warning time, distance to the theater, magnitude of the threat, duration and intensity of conflict, and number of simultaneous conflicts to be supported. For the planning assumptions that existed in 1988 and earlier, we had well in excess of required sealift capability in container ships and tankers. In unit equipment (tanks, trucks, helicopters, etc.), we met about 85% of the required sealift capability in militarily useful roll-on/roll-off ships.

Since then there have been dramatic changes in the world. These world events will likely change the size of the land, air, and sea services to be supported, and will also likely change scenario planning assumptions. Depending on the overall magnitude of force reductions and deployment sites of the forces that remain, a reduction in overseas forces may not necessarily result in more forces stationed in the United States. These changes will affect the amount and kind of sealift that would be needed. New operational requirements for sealift to reflect this rapidly changing world have yet to be established.

MINE WARFARE REQUIREMENTS

Question: Admiral Nyquist, in response to a request by this committee the CNO conducted a review of mine warfare requirements. Can you tell the committee the results of this study and the Navy's plans to fulfill its recommendations?

Answer: To address the complex issues of mine countermeasures, the Chief of Naval Operations established a CNO Executive Board Task Force (CEB-TF). The CEB examined the threat, missions, and strategy, force levels, costs, active and reserve mix, risk reducers, and allied contributions. The five month effort resulted in decisions to increase our mine countermeasures force structure goals to meet the increasing port breakout requirements of the Fleet Commanders. In developing program objectives for FY-92, we will consider several new research and development efforts and additional forces (13 MH-53E helicopters, eight Modern Technology Deployable Dual-Mission ships, Eight Modern Technology Coastal Ships) beyond our previous force level objectives; however, these programs will have to compete with other high priority issues in a time of declining budgets. We are also exploring research and development options (remote mine countermeasures) to provide shallow and very shallow water mine clearance capability in support of amphibious operations. CNO also concurred with the recommendation to place 12 MCM 1 ships, one MHC 51 ship, and two MH-53E squadrons on active duty to respond to low intensity conflicts and provide for immediate port breakout should the need arise. The other ships and RH-53 helicopters would be assigned to the Naval Reserve.

MINE WARFARE SHIPS

Question: Admiral Nyquist, the report by Secretary Garrett mentions plans to consider eight Modern Technology Dual Mission ships and eight Coastal ships. Can you tell us something about your plans for these ships?

Answer: As part of the overall Navy program objectives for FY-92 and out, these requirements are being considered; however, with reduced budgets they will have to compete with other shipbuilding requirements. That process is ongoing.

SHALLOW WATER MINE WARFARE CLEARANCE

Question: I understand you have already purchased equipment for detecting mines for use on patrol craft, but that idea has been discarded. What are your plans now for clearing mines out of very shallow water areas.

Answer: COOP as presently equipped and structured represents a Q-Route survey asset only, not a minesweeping one. The clearance of mines in very shallow water areas is under review.

QUESTIONS SUBMITTED TO VICE ADMIRAL NYQUIST BY SENATOR D'AMATO

QUESTION: What "topside design impacts" make it impractical to add the SLQ-32(V)3 "Sidekick" to the first flight of DDG 51 class destroyers? Why will the first and second flight of DDG 51s also lack hangar, refueling, or maintenance facilities for the LAMPS MK III helicopters? How severely will this omission degrade the ASW capabilities of DDG 51s? Would the Navy's overall ASW effort be better served by delaying the retirement of older assets in exchange for a reduction in DDG 51 procurement until vital capabilities can be worked into BURKE-class production?

ANSWER: "SIDEKICK" installation on the first flight of ARLEIGH BURKE DDG 51 class destroyers is impracticable due to the following topside design impacts: underway replenishment station interference, modifications to the ship's radar cross section signature, interference with other installed antennae, weight and moment modifications, and radiation hazard to ship's crewmembers.

The only feasible location for the SIDEKICK antenna on DDG 51 is below the SLQ-32(V)2 antenna, based on a comparison of system effectiveness versus ship impacts. This requires redesigning SIDEKICK to separate the antenna from the electronics enclosure. Engineering Change Proposal (ECP) development and implementation timelines, ship design lead time, and equipment production lead time dictate that the earliest SIDEKICK could be reasonably introduced into DDG 51 class ships is in an FY 92 authorized ship.

A review of the costs, schedule, integration effort, and design impacts required to achieve active ECM capability onboard the ARLEIGH BURKE class indicates that installation of SLQ-32(V)3 is a more feasible alternative. The SLQ-32(V)3 has more active capability than SLQ-32(V)2 plus SIDEKICK, and does not require extensive redesign. Thus, DDG 51 class ships, beginning in FY 92, will receive the SLQ-32(V)3 as opposed to SIDEKICK.

The original DDG 51 Flight I design included a helicopter landing deck and full SQQ-28 LAMPS electronics to support LAMPS MK III helicopters. The decision was made not to provide hangar and maintenance facilities in order to keep down the cost of the ships, given that a sufficient number of other ships in the battle group can currently maintain LAMPS MK III helicopters. In response to concerns about increasing the LAMPS MK III support capabilities on DDGs, LAMPS MK III rearming and refueling capability has been added to the first and second flights of the DDG 51 design, beginning with DDG 52. These two flights will also have limited maintenance facilities. An organic LAMPS MK III capability is under active consideration for incorporation in DDG 51 Flight III.

The lack of a hangar and full maintenance facilities will not degrade the ASW capabilities of DDG 51s. All DDG 51s have the full suite of SQQ-28 LAMPS electronics which enables them to take advantage of the full range of LAMPS MK III ASW capabilities. In addition to LAMPS III electronics, DDG 51 has the world's most advanced hull mounted sonar, the AN/SQS-53C, and the highly capable AN/SQR-19 towed array.

Delaying retirement of DDG 2 and 37 class ships in exchange for a reduction in DDG 51 procurement until incorporation of additional capabilities does not serve the Navy's overall ASW efforts. The DDG 2 and DDG 37 class ships, which the DDG 51 class ships will replace, are significantly less capable in ASW relative to DDG 51 and contain no helo capability. DDG 51 class ships not only provide full LAMPS MK III ASW capability but also vital AAW and ASUW advances in capability, plus order of magnitude improvements in survivability.

QUESTIONS SUBMITTED TO VICE ADMIRAL NYQUIST BY SENATOR SPECTER

AIRCRAFT CARRIERS

QUESTION: Given the exorbitant costs associated with finishing construction of the next nuclear, carrier--I am advised they are expected to exceed $4 billion--wouldn't it be prudent in the present budgetary environment to perform SLEP on the USS KENNEDY at a cost of $850 million and delay construction of the last nuclear carrier?

ANSWER: In the President's FY 1991 budget, USS JOHN F. KENNEDY (CV 67) is scheduled for Service Life Extension Program (SLEP) commencing in FY 1993. The amount budgeted for this is $875 million. The total cost for CVN 74 and CVN 75 is expected to be $6.2 billion which is a significant savings over the cost to procure them separately. These ships are under contract at Newport News. Delaying construction would result in claims for delay and disruption by the shipbuilder which could easily exceed the cost of USS JOHN F. KENNEDY (CV 67) SLEP.

QUESTION: Since the Philadelphia Naval Shipyard has distinct assets for work on the Navy's largest ships, and Philadelphia's work force has unique capabilities for work on the Navy's newest AEGIS ships, I believe it would be a mistake to close the yard. In a meeting on March 20, 1990 with Secretary of Defense Cheney and Secretary of the Navy Garrett, both stated that inclusion of the Philadelphia Naval Yard on the closure candidate list could be reconsidered. It has been reported to me by Navy sources that you prefer to retain all eight naval shipyards we have today. Could you please give us your views on this matter?

ANSWER: The subject of base closure is a complex and sensitive issue. The continued operation of our bases is an expense that must be legitimately considered as the entire Defense Department is forced to reduce its total budget. In this regard, the Navy is conducting a thorough review of its entire shore establishment to determine which bases will be needed to support realistic future requirements. Many factors are being reviewed, including any unique capabilities at individual bases. It is premature at this time to speculate on the outcome of the review which will be completed this fall. Final decisions on base closures will also be influenced by results of required environmental documentation and other studies.

QUESTIONS SUBMITTED TO VICE ADMIRAL COOPER BY SENATOR BYRD

EARLY RETIREMENT OF ATTACK SUBMARINES

QUESTION: (U) The Navy's 37 Sturgeon-class nuclear-powered attack submarines were commissioned between 1967 and 1975 and are considered to be capable submarines. Since they have a maximum service life of 30 years, the newest ones were expected to remain in service until the year 2005. However, due to prospective limits on future Navy budgets, the Navy and the Administration are considering the option of not funding overhauls for these submarines. Without overhauls, these 37 submarines would have to be retired between FY 1991 and FY 1998. The first two to be retired for lack of overhaul funding are the Queenfish and the Sea Devil, which are to be deactivated under the proposed FY 1991 budget. The Navy has testified that overhauls would cost $120 million to $150 million per submarine in FY 1991 dollars. If these submarines are retired early because of lack of funding for overhauls, the U.S. Navy's nuclear-powered attack submarine force will drop from its current figure of about [Deleted] by the late 1990's. That would be far below the Navy's current objective of achieving and maintaining a force of 100 nuclear-powered attack submarines. Does the prospective early retirement of the Sturgeon-class submarines reflect a pending reduction in the navy's force level objective to something like [Deleted] nuclear-powered attack submarines? Please provide for the record a year-by-year presentation, from FY 1990 through FY 2000, of: (a) the funding that would be required for the overhauls; (b) projected retirements of these submarines if this funding is not made available; and (c) the resulting force level if these early retirements are carried out.

ANSWER: (S) The prospective early retirement of Sturgeon-class submarines does not reflect a reduction in the Navy's force level objective of 100 nuclear-powered attack submarines.

(a) Funding required to overhaul all SSN 637 class SSNs:
($ millions)

FY 90	FY 91	FY 92	FY 93	FY 94	FY 95
0	321	442	38	605	310

FY 96	FY 97	FY 98	FY 99	FY 00
603	604	830	332	0

(b) Projected retirements if funding is not made available:

FY 90	FY 91	FY 92	FY 93	FY 94	FY 95
685*	651 664		[Deleted]		

*Planned retirement related to propulsion plant irrespective of funding.

FY 96	FY 97	FY 98	FY 99	FY 00
		[Deleted]		

(c) Resulting SSN force level (based on a two SSN-21 per year build rate):

FY 90	FY 91	FY 92	FY 93	FY 94	FY 95
91		[Deleted]			

FY 96	FY 97	FY 98	FY 99	FY 00
		[Deleted]		

QUESTIONS SUBMITTED TO VICE ADMIRAL COOPER BY SENATOR D'AMATO

ATTACK SUBMARINE SHORTFALL

QUESTION: (U) Attached charts #1 & #2 project attack submarine numbers from 1991-2010 assuming: 1) the early retirement of the two 637-class submarines in FY91 is a one-time only action, and 2) no further overhauls and refuels for 637-class submarines are funded. Should the Navy not fund Sturgeon overhauls and refuels, what effect would the projected shortfall have on the execution of our maritime strategy, especially considering the on-going modernization program being carried out by the Soviets and the growing proliferation of sophisticated submarines is the Third World? What, specifically, will the Navy give up in terms of capability and coverage as attack submarine numbers decline?

ANSWER: (S) With the Navy's current plan to fund five Sturgeon Class submarine overhauls, our nuclear attack submarine force level will be with a [Deleted] This assumes that all of the 637 Class submarines whose overhauls are not funded are retired early and that SEAWOLF submarines are built at a rate of three per year. Chart #2, which predicts the projected SSN force level if all 637 Class overhauls (refueling and non-refueling) are cancelled, depicts that a force level of [Deleted]

In fact, if the Navy were to cancel the five 637 Class submarine overhauls that are currently scheduled, the attack submarine force level will be [Deleted] which is not as low as predicted by chart #2. In addition, if the Navy's original 637 Class retirement plan was executed, (that is, overhauling those ships that would provide an economically justified extension of their operating cycle, without exceeding a 30 year hull life) the attack submarine force level would be [Deleted] Thus, the Navy's plan to cancel all but five of the originally planned 637-Class overhauls will only reduce the force level by [Deleted]

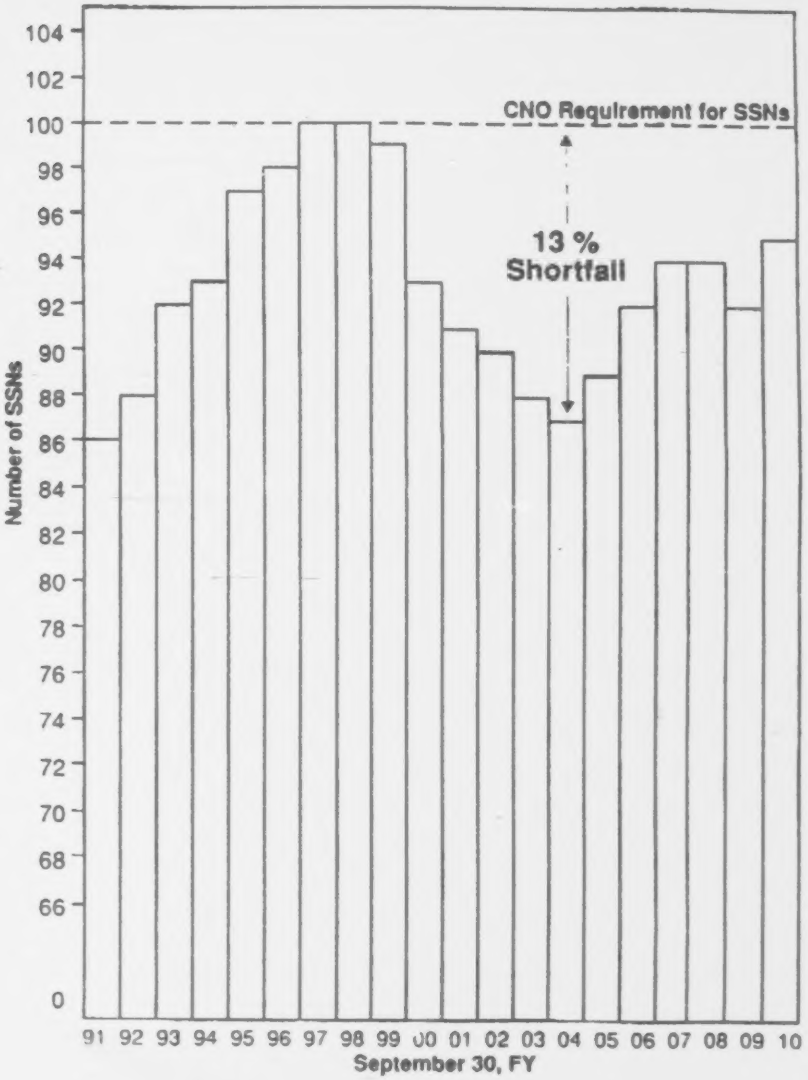
(U) The maritime component of our National Military Strategy (NMS) requires us to maintain the capability to provide an early response to a broad spectrum of possible conflicts and to be able to project naval power with a sustainable, survivable, far-forward presence. Although 637 Class submarines are capable platforms against today's threat, they would not be used to execute the far-forward missions that would be required for successful execution of this strategy, today, or in the future. In a global conflict, the highly capable and technologically superior SSN-21 Class of submarines, along with Improved 688 Class submarines, would be assigned the most demanding mission areas in the far-forward regions. 637 Class submarines would be assigned less demanding missions such as battle group support and open-ocean ASW and as such, would not be expected to make a large contribution toward the quick termination of such a conflict.

Therefore, since the SSN-21 Class of submarines will be the key to the successful execution of our far-forward NMS in a global conflict, a reduction in the projected U.S. SSN force level due to the early retirement of some 637 Class submarines will not adversely affect our ability to execute this strategy, as long as the SSN-21 Class of submarines is brought to fruition.

(U) With regard to regional conflict containment, the President's National Security Strategy of 1990 states we should expect regional conflicts to proliferate as we shift from a bipolar to multipolar world. SSNs can be used to provide intelligence, surveillance, special forces insertion, and cruise missile capability. In addition, as Third World Nations obtain more sophisticated weapons, including modern diesel submarines, the submarine role in regional conflicts will become even more important. Present operational commitments from deployments, pre-deployment workups, fleet support, and other requirements are already stretching our present day force. Any further reduction in our SSN force level, even from 637 Class submarines, will make it more difficult to meet these growing commitments and execute the mission of regional crisis containment without sacrificing readiness, or safety, to some degree.

(U) In summary, the planned reduction in our SSN force level due to the early retirement of some of our 637 Class submarines will only have a minor affect on our ability to execute the far-forward NMS in a global conflict. These reductions will, however, make it more difficult to meet all of our present operational commitments and execute the mission of regional crisis containment, since these crises are expected to proliferate with the continued spread of advanced technology weapons to Third World nations. Thus, we will give up little attack submarine force capability with the early retirement of some 637 class submarines, but may relinquish some "worldwide coverage." Any further reductions in our attack submarine force level will only make this condition more severe.

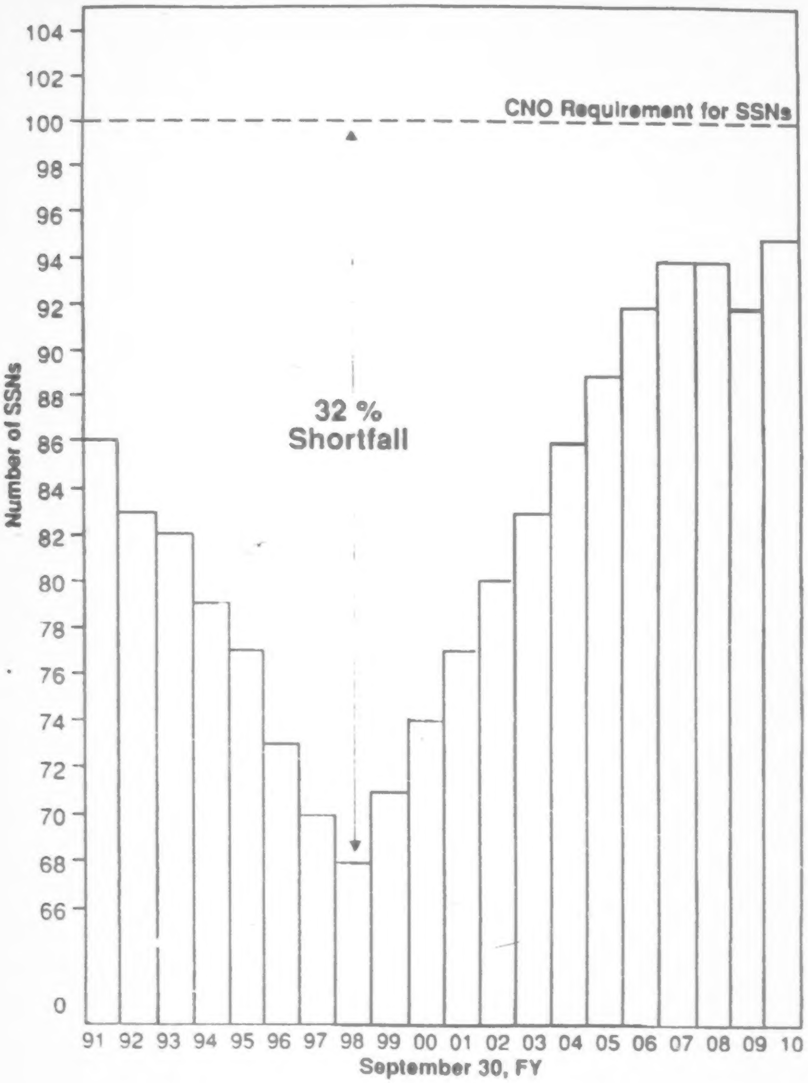
ATTACK SUBMARINE SHORTFALL WITH STURGEON CLASS OVERHAULS/REFUELS FUNDED



Assumptions

1 Building Program of 3 SSNs p/yr through 2010
2 30 Year Service Life for 637, 688 and 21 Class

ATTACK SUBMARINE SHORTFALL WITHOUT STURGEON CLASS OVERHAULS/REFUELS FUNDED



Assumptions

1 Building Program of 3 SSNs p/yr through 2010

2 30 Year Service Life for 688 and 21 Class

ATTACK SUBMARINE MISSIONS

QUESTION: Attached chart #3 lists attack submarine missions and allocation of resources in a notional 150 SSN fleet. What would you add to or subtract from the missions list? How would you distribute resources among these missions with a fleet of 100 SSNs? With a fleet of 75 SSNs?

ANSWER: Attack submarine missions and probable distributions during a global conflict for fleet sizes of 75, 100, and 150 SSNs, are as follows:

MISSION/REQUIREMENTS	FORCE LEVEL		
	150	100	75
Forward Area Offensive Operations (ASW, ASUW, Strike, Mining, Special Warfare)		[Deleted]	
Open Ocean Operations (Battle Group Support, Open Ocean ASW)			
Overhaul, SRA, or PSA			
TOTAL	150	100	75

Assumptions:

1. [Deleted] of force is deployable in wartime and is available to fight for the first days.
2. Beyond days, of deployable force would be either in maintenance, loading out, crew rest, or transit.

[Deleted]

Thus, of the deployable force would be available to fight the war during the first days.)
3. No SSNs are built for an "attrition factor."
4. Atlantic/Pacific fleet split normally [Deleted]

CHART #3

ATTACK SUBMARINE REQUIREMENTS
(An Estimate)

	LANT	+	PAC
BARRIER PATROL	20	+	20
CVBG DIRECT SUPPORT (3 + 3)	6	+	6
SSBN CLEANER	4	+	2
SPECIAL OPERATIONS	2	+	2
ASW FORCE TRAINING	1	+	1
SPECIAL SURVEILLANCE	3	+	3
Arctic SSKN Ops		4	
Crew training, transit, repairs, etc. (1/3)		37	
TLAM/mine carriers		25	
Attrition (10%)		14	
Total		150	

(UNCLASSIFIED)

SSN-21 FOLLOW-ON

QUESTION: The beginning of the design phase for a follow-on class to the SSN-21 incorporating the latest technological advances should be initiated in the FY91-FY94 time frame, assuming an optimistic 6 years to design and 6 years to build, if the Navy intends to dovetail the introduction of a new class of attack submarine with the wrap-up of SEAWOLF production. Has the Navy begun designs for a follow-on to the SSN-21? If not, why not? When can we expect such a design process to begin?

ANSWER: The Navy has not begun any plans for a follow-on submarine to the SSN-21, and is not planning to start any such plans in the foreseeable future. The SSN-21 design incorporates such a large number of technological advances that the SEAWOLF is projected to be superior to the projected threat well into the 21st century. Specifically, the SEAWOLF will have the ultimate in stealth technology, making her the quietest submarine in the world at any speed. In fact, the SEAWOLF will be over 30 times quieter than our original 688 Class of submarines. In order to put this in perspective, one must consider that when the 688 Class of attack submarines was first introduced, it was twice as quiet as the previous class of submarines, the Sturgeon (SSN-637) Class. Thus, the quieting technology that is being incorporated into the SEAWOLF will produce a truly revolutionary improvement in noise reduction from previous submarine shipbuilding programs.

The SEAWOLF will also carry the most advanced submarine combat system in the world, the AN/BSY-2. This system, with its superior sensors and processing capability, coupled with the ship's superior quieting, will give the SEAWOLF the highest tactical speed of any submarine in the world -- providing greater search effectiveness and lower probability of counterdetection. SEAWOLF will also possess double the firepower of the most advanced operational Soviet submarine. SEAWOLF's torpedo room will carry TOMAHAWK (sea and land-attack) missiles, HARPOON missiles, MK-48 ADCAP and CCAPS torpedoes, mines, and when developed, remotely operated vehicles. In addition, the SEAWOLF has been designed with a generous design margin for growth in order to incorporate future technology advances.

Recent dynamic mission analysis has confirmed that the SEAWOLF, with planned improvements, will have the capability to be superior to even the most robust projected future threat. In fact, SEAWOLF is projected to be three times as capable as an Improved 688 Class submarine. Clearly, with the SEAWOLF's superior capability and built-in design margin for growth, it would be more economical to continue to procure SEAWOLF class submarines, upgrading them as required to meet threat advances, than it would be to start a new submarine design from scratch that would consume billions of dollars in research, development, design, and construction costs. The SEAWOLF submarine will be capable of maintaining our historic edge in undersea superiority well into the 21st century.

QUESTIONS SUBMITTED TO VICE ADMIRAL HECKMAN BY SENATOR INOUYE

SHIPBUILDING COST OVERRUNS

QUESTION: Admiral Hekman, what is the NAVSEA estimate of the unfunded liability in Navy shipbuilding contracts?

ANSWER: Of the 37 current fixed price incentive contracts, NAVSEA estimates that 21 contracts will exceed the original contract target costs by a total of approximately $3.8 billion. Of this, the estimated Government liability is $1.5 billion, most of which is covered within existing appropriations. However, Gramm-Rudman-Hollings sequestration and increases in projected escalation requirements, due to increasing inflation, reduce the flexibility of the appropriation to reserve funds for over target increases.

QUESTION: How does this (NAVSEA estimate of the unfunded liability in Navy shipbuilding contracts) compare to your funding assets available to meet these costs?

ANSWER: The Navy is currently conducting the annual Ship Cost Adjustment (SCA) review of the SCN appropriation. During that review, we will identify any additional requirements and assets.

QUESTION: Admiral Hekman, several cost estimates of ships in FY 91 are significantly higher than in recent years. Is this related to your current shortfalls?

ANSWER: The estimates for FY 91 shipbuilding programs reflect more recent contract award experience.

COASTAL MINEHUNTER (MHC)

QUESTION: Admiral Hekman, there have been several delays in the Coastal Minehunter program, both in contracts awarded and planned ship deliveries. What is the current status of the program -- is it on schedule and within the target price of the contracts?

ANSWER: To date three ships have been awarded, two to Intermarine USA and one to Avondale Industries. The two FY 90 ships have not yet been awarded. Intermarine USA has had problems with the lead ship. They are behind on their engineering effort which has impacted the overall construction process. The entire glass reinforced plastic (GRP) ship structure was completed last fall and is being outfitted. The second ship at Intermarine USA is also well along in construction. All but one deck level of the GRP structure is completed and this ship has also started initial outfitting. The lead ship delivery schedule is currently January 1992 which is 4 months behind the contract delivery schedule. The MHC 52 delivery schedule is currently June 1992, 2 months behind the contract delivery schedule primarily due to the slippage of the MHC 51. The startup problems Intermarine has seen on the lead ship have driven up its cost. It is estimated that the lead ship will hit the contract ceiling. These increased costs are largely non-recurring however, that is they should not repeat on follow ships. This is indicated by the company currently still estimating the contract target on the MHC 52. Avondale is on schedule so far with their first ship. They are still in the production engineering and facility modification stage. They are also currently estimated to be on target cost.

QUESTION: Your budget notes that you plan to award the two MHC ships funded in FY 90 this month. Is that still the plan? (Explain any delays).

ANSWER: The award will not happen during May 1990. Receipt of the proposals was delayed by extensions of the proposal period. The proposals are in hand now and are being evaluated.

QUESTION: If Congress approves your request for three minehunters in 1991, when will construction of these vessels begin?

ANSWER: That is somewhat dependent on who wins the ships. The FY 91 ships are options to the FY 90 ships. Construction of the hull is usually not the initial construction work. Other parts of the ships, bulkheads, decks and the superstructure, can be started earlier. The order in which the various components are constructed is largely dependent on the production scheduling and manpower of the particular yard. Intermarine USA started construction of MHC 52 within 2 months after award so that kind of timeframe is possible. Avondale starts construction of their first ship in February 1991 due to the facility and mold work required. Either shipbuilder could start construction of follow ships soon after the award.

QUESTION: When will the second shipbuilder begin construction of the first ship which was awarded in October 1989?

ANSWER: Avondale is currently building the molds and modifying their facility in Gulfport, Mississippi. They will start laying GRP in the fall of 1990 as part of their process qualification. They are scheduled to start construction of the ship in February 1991.

QUESTION: There have been reports that neither shipbuilder is able to construct more than one hull at a time. Is this accurate and if so how does this mesh with your plans to build three ships per year?

ANSWER: It is true that only one hull can be constructed at a time, however once that hull is made it can be demolded and another one started. Intermarine built the MHC 52 hull in 4 months. Avondale should also be able to build the hulls in this timeframe. Therefore, more than three hulls could be built in a year at the two shipbuilders. Even before the hull is started other parts of the ship can be fabricated on other molds, decks, bulkheads, superstructure, etc. When the hull is made and demolded as part of the overall ship construction process is largely determined by the construction scheduling and manpower of the particular shipbuilder.

SHIPYARD MODERNIZATION

QUESTION: Admiral Hekman, in FY 91, how much has the Navy budgeted for shipyard modernization equipment in the "Other Procurement, Navy" account?

ANSWER: $83.632 million (includes minor construction).

QUESTION: During a recent trip to Japan, Navy officials impressed me with the low "manday" costs for the Yokosuka Navy Ship Repair Facility. Is this manday rate difference attributable to accounting--because the yard in Japan is not part of the Navy Industrial Fund--or is the Yokosuka yard that much more productive?

ANSWER: There are various factors that contribute to the difference in manday rates at the Yokosuka Ship Repair Facility (SRF).

-- The manday rates are not stabilized as they are at Naval shipyards. The current direct labor manday rate at Yokosuka is $275. The rates can be adjusted at any time; in fact, they just went up after a 2-year period of no change. The rates are based on the amount of work expected in the yard for the rest of the year, plus the amount of money currently in overhead account, and are adjusted as required.

-- The SRF operates under a modified industrial accounting system. Unlike Naval Industrial Fund (NIF) activities, SRFs must balance to zero at the end of each year; dollars cannot be carried over.

-- SRFs do not require the same overhead as NIF activities due to the way the SRF is structured; e.g., fewer reporting requirements and a simplified accounting process require less overhead people.

-- Japanese wages are not equivalent to U.S. wages; however, twice a year the workers get a bonus that is roughly equivalent to their annual salary, so on the average over the year they are paid about the same as U.S. workers. The Japanese government pays the employee benefits (leave, medical, etc.); the only thing the Navy pays is salary.

-- The bulk of the SRF's workload is emergent work; therefore, fewer dollars are spent for advance planning; availabilities are typically shorter than at U.S. Naval shipyards; timetables are compressed. A 2-week availability is conducted much differently than an 18-month availability.

-- Overtime rules are quite different as well. There is only a slight dollar increase for overtime work.

-- There is more cross-trade work at the SRF. In addition, part of the work is contracted, and contractors work easily with the workers, causing minimal delay and disruption.

QUESTION: During a recent trip to Japan, Navy officials impressed me with the low "manday" costs for the Yokosuka Navy Ship Repair Facility. What is the process and timetable for determining whether to close Long Beach and Philadelphia Navy Shipyards? To which yards will these yards' workloads be reallocated?

ANSWER: When presented to Congress, a base proposed for closure must meet the provisions of 10 USC 2687, which requires, inter alia, six studies covering the following areas: environmental, local economic, strategic, operational, budgetary and fiscal. The first two studies are the most complex and are part of a study collectively known as the Environmental Impact Study (EIS). Its time line drives the completion of the process and is as follows for each activity:

Draft EIS Submission	07/20/90
Draft Public Notice Submission	08/17/90
Final Public Notice Submission	08/17/90
Final DEIS Submission/Distribution	08/17/90
File DEIS with EPA	08/17/90
Final Public Hearing Presentation	09/07/90
Public Hearings	09/10/90
Draft Final EIS Submission	11/01/90
Final FEIS Submission/Distribution	11/23/90
File FEIS with EPA	11/23/90
Record of Decision	01/09/91

The record of decision will be the Secretary of the Navy decision to forward the recommendation to Congress via the Secretary of Defense for a final decision on whether or not a base will be closed.

The Navy is currently in the process of reviewing the reallocation of Long Beach and Philadelphia Naval Shipyards' workload in the event of closure of either or both of these facilities.

QUESTION: Secretary Cann, last year the Navy awarded a contract for the first SSN-21 submarine without sufficient ship construction funds appropriated for this program. The FY 91 budget includes $1.1 billion for advance funding for six SSN-21 submarines to be purchased under a "Large Lot" strategy. Admiral Hekman, would you comment on this strategy and the requirement to purchase six SSN-21s in one year.

ANSWER: The SSN-21 lead ship was awarded January 9, 1989. The Navy concluded, after its extensive review, that a very favorable competitive bid existed and needed to be awarded. While the bid exceeded the amount budgeted for basic construction, there were sufficient unobligated funds within the amount appropriated to make this award.

The large lot procurement plan is a Defense Management Review initiative to realize unit cost savings by permitting shipbuilders to economically and efficiently procure material and coordinate the efforts of their work force. It is a sound acquisition strategy which will maximize the use of our limited resources.

Changes in the outlook for future resource levels and force structure may affect savings estimates and the feasibility of large lot procurement. We will reassess our large lot procurement strategy once our FY 1992 and beyond shipbuilding procurement plans become more definitized.

QUESTIONS SUBMITTED TO VICE ADMIRAL HECKMAN BY SENATOR SPECTER

SEALIFT

Question: If the United States is to maintain its forward defense strategy, there will still be a basic requirement for strategic mobility. In the present threat environment, however, the most significant development to affect our force planning has been the increase in unambiguous warning time. Recent intelligence estimates indicate that for the "Central Front scenario" warning time may have increased recently from 14 days to as much as six months. With greater warning time we can rely more heavily on sealift than airlift. What change in the airlift/sealift ratio would you recommend to reflect estimates of increased warning time?

Answer: All significant sustained operations in forward theaters depend on sealift. In any future war, more than 95% of petroleum products and more that 90% of equipment and logistics material will be lifted to forward theaters in ships. Sealift is a very cost effective form of strategic mobility, and can be adapted to short warning times by afloat prepositioning or longer warning times by concepts ranging from dedicated ready reserve forces through merchant marine ships in daily commercial service.

The number, configuration, and peacetime uses of sealift ships are very dependent on the amount of land, air, and sea services forces, equipment, and logistics material available to be lifted, and are also very dependent on the specific scenarios envisioned regarding warning time, distance to the theater, magnitude of the threat, duration and intensity of conflict, and number of simultaneous conflicts to be supported. For the planning assumptions that existed in 1988 and earlier, we had well in excess of required sealift capability in container ships and tankers. In unit equipment (tanks, trucks, helicopters, etc.,) we met about 85% of the required sealift capability in militarily useful roll-on/roll-off ships.

Since then, there have been dramatic changes in the world. These world events will likely change the size of the land, air, and sea services to be supported, and will also likely change scenario planning assumptions. Depending on the overall magnitude of force reductions and deployment sites of the forces that remain, a reduction in overseas forces may not necessarily result in more forces stationed in the United States. These changes will affect the amount and kind of sealift that would be needed. New operational requirements for sealift to reflect this rapidly changing world have yet to be established.

In the naval recovery program of the past decade, the Navy took the initiative and made significant investments, exceeding seven billion dollars, to improve our strategic sealift capability. This very successful sealift effort acquired eight fast sealift ships, 13 maritime prepositioning ships for three Marine Corps Brigades, two hospital ships, nine auxiliary crane ships, two Marine Corps aviation logistics ships, five sealift tankers, and expanded the Ready Reserve Force to more than 90 ships. We also have 12 prepositioning ships for Army and Air Force material originally acquired in the 1970s. This comprehensive sealift program significantly improved our national strategic mobility posture, provided seagoing jobs to American mariners, and preserved a sector of the shipbuilding industrial base hard hit by lack of commercial shipbuilding.

Furthermore, in 1989 the President established a national sealift policy to rely primarily on the commercial merchant marine to meet our strategic sealift needs. Ships built with private venture capital for commercial service reduce the cost to the Government and the taxpayers in supporting our strategic mobility requirements.

Given rapidly evolving world events, the existence of more than 100 dedicated military sealift ships, and the policy of relying primarily on the commercial merchant marine, we may not now need to continue to increase our dedicated military sealift ships through Government production programs. We clearly need sealift, but we may not now need new Government funded programs.

SUBCOMMITTEE RECESS

Senator INOUYE. The subcommittee will stand in recess until Thursday, May 17, and at that time we will have a top-secret hearing on the Soviet threat.

Thank you very much.

[Whereupon, at 11:50 a.m., Tuesday, May 15, the subcommittee was recessed, to reconvene subject to the call of the Chair.]

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